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UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO 131

U. S. Naval Observatory, Washington, D. C. 20390 May 21, 1971

Total Solar Eclipse of 10 July 1972

by

U. S. NAVAL OBSERVATORY
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WASHINGTON

Julena S. Duncombe

GENERAL INFORMATION

The path of the total phase of the solar eclipse of 10 July 1972 touches the earth at sunrise in the Sea of Okhotsk with the northern limit on Sakhalin Island. Traveling in a northeasterly direction the path crosses the Kamchatka Province, continues just inland along the Koryakski Range, then over Anadyrski Bay and across the Chukotski Peninsula. Leaving the U. S. S. R. at $18^h\ 47^m$ U.T., it continues across the Chukchi Sea and the Bering Strait and enters Alaska between Point Hope and Baldwin Peninsula at $18^h\ 51^m$ U.T. Moving in an easterly direction the path passes along the northern slope of Brooks Range and by $19^h\ 06^m$ U.T. it is over the Yukon Territory of Canada. It continues along the northern coast of the Northwest Territories and gradually begins to swing southeast. Over the region near Baker Lake maximum duration of $2^m\ 35\overset{s}{.}6$ is reached. By $19^h\ 49^m$ U.T. the path has reached the western shore of Hudson Bay just south of Chesterfield Inlet. It then passes over Sleeper, King George, and Belcher Islands in the Bay and reaches the southeastern shore of the Bay at $20^h\ 12^m$ U.T. to begin its journey across Quebec Province. By $20^h\ 30^m$ U.T. the path begins to cross the Gaspé Peninsula, passes along the eastern coast of New Brunswick, then crosses Prince Edward Island, and Nova Scotia. By $20^h\ 40^m$ U.T. it is leaving the mainland of North America, and by $20^h\ 43^m$ U.T. has crossed Sable Island. The path leaves the earth at sunset in the North Atlantic Ocean to the south of the Azores.

Partial phases of the eclipse of greater or less magnitude, decreasing with the distance from the path of total phase, will be visible over most of North America, the northwestern part of South America, the northeastern part of Asia, the northwestern part of Europe, and Greenland.

The predictions in this *Circular* are derived from the basic data in the American Ephemeris and Nautical Almanac for the Year 1972. The arguments are in Universal Time, and the longitudes west of Greenwich are positive. The solar ephemeris was referred to the same equinox as the lunar ephemeris by applying a provisional correction of $1\overset{s}{.}34$. The value of ΔT, used in the computations, is $41\overset{s}{.}0$ ($42\overset{s}{.}34 - 1\overset{s}{.}34$).

The value of 0.2724880 for $\underline{k}$ has been used in these calculations except for the calculations of duration on the central lines, where the value 0.272281 has been used by way of applying an approximate correction for the irregularities of the lunar limb. The duration tabulated in local circumstances is derived from the second and third contacts.

In the local circumstances, the angle $\underline{P}$ is the position angle of the point of contact,

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	18		CIRCULARS
VERTICAL			
FRONT OR LABELS			

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GENERAL INFORMATION (*Continued*)

measured eastward from the north point of the solar limb, and the angle $\underline{V}$ is the position angle of the point of contact, measured eastward from the vertical circle.

The circumstances of the eclipse were plotted by the Nautical Almanac Office on portions of World Aeronautical Charts of Canada published by the Surveys and Mapping Branch of the Department of Energy, Mines and Resources, Ottawa, Canada, and on portions of Operational Navigational Charts of northeast Asia, World Aeronautical Charts of Alaska, and World Mercator Projection 3090 published by the Coast and Geodetic Survey of the Department of Commerce, C-44, Washington, D. C. 20235. The climatological data were prepared by the Canadian Meteorological Service of the Canadian Department of Transport. If further climatological information is required, please address inquiries to the Administrator, Canadian Meteorological Service, 315 Bloor Street West, Toronto 5, Ontario. Attn: Climatology Division.

To convert to the standard time zone of the observer's geographic location:

S. T. 150° E.	U. T. + 10 hours	P. S. T.	U. T. - 8 hours
S. T. 165° E.	U. T. + 11 hours	M. S. T.	U. T. - 7 hours
S. T. 180° E.	U. T. + 12 hours	C. S. T.	U. T. - 6 hours
S. T. 180° W.	U. T. - 12 hours	E. S. T.	U. T. - 5 hours
Bering S. T.	U. T. - 11 hours	A. S. T.	U. T. - 4 hours
Alaska-Hawaii S. T.	U. T. - 10 hours	Nfld. S. T.	U. T. - $3\frac{1}{2}$ hours
Yukon S. T.	U. T. - 9 hours		

This *Circular* contains the following information: The Eclipse Map from the American Ephemeris and Nautical Almanac, p. 4; The Path of the Total Phase, p. 5; The Central Line, Duration and Width of Path at 10,000 feet, 20,000 feet, 30,000 feet, and 40,000 feet, pp. 6,7; The Central Line, Duration and Width of Path at 80 km, 100 km, 200 km, and 300 km, pp. 8,9; Local Circumstances for Points on the Central Line, pp. 10,11; Local Circumstances for Geographic Locations for both Total and Partial Phase, pp. 12 through 23; Maps of Portions of the Path, pp. 24 through 47; Climatological Data, pp. 48,49; Map of Path, p. 51.

It is requested that precise observations of contact times of this eclipse and precise coordinates of the place of observation be reported to

The Nautical Almanac Office,
U. S. Naval Observatory,
Washington, D. C. 20390, U.S.A.

TOTAL SOLAR ECLIPSE OF 1972 JULY 10

PATH OF THE TOTAL PHASE

Universal Time h m	Northern Limit Latitude ° ′	Northern Limit Longitude ° ′	Central Line Latitude ° ′	Central Line Longitude ° ′	Southern Limit Latitude ° ′	Southern Limit Longitude ° ′
Limit	+51 29	-143 12	+51 02	-143 56	+50 36	-144 39
18 29	.. .. .	... .. .	+53 17.4	-148 46.4	+54 49.6	-154 05.0
30	+54 16.7	-149 06.6	55 36.1	153 56.0	56 21.7	157 43.9
31	56 20.1	153 38.8	57 03.8	157 21.9	57 32.3	160 40.0
32	57 44.6	156 54.3	58 12.9	160 11.7	58 31.4	163 13.8
33	58 52.6	159 38.8	59 11.3	162 42.0	59 22.7	165 33.8
18 35	+60 41.7	-164 21.5	+60 48.3	-167 08.7	+60 49.8	-169 47.8
37	62 09.5	168 31.2	62 07.9	171 09.3	62 02.4	173 40.2
39	63 23.6	172 22.9	63 15.7	174 54.6	63 04.5	-177 19.5
41	64 27.5	176 03.9	64 14.4	-178 30.4	63 58.6	+179 09.9
43	65 23.3	-179 38.2	65 05.8	+178 00.0	64 45.9	175 45.2
18 45	+66 12.4	+176 51.7	+65 51.0	+174 34.5	+65 27.4	+172 24.7
50	67 50.8	168 15.9	67 21.2	166 11.7	66 49.9	164 15.2
55	69 00.2	159 46.5	68 24.0	157 58.3	67 46.7	156 17.9
19 00	+69 44.8	+151 22.9	+69 03.5	+149 54.0	+68 21.5	+148 32.4
05	70 07.5	143 10.2	69 22.4	142 03.1	68 37.1	141 02.0
10	70 10.6	135 15.6	69 23.2	134 31.3	68 35.7	133 51.3
15	69 56.6	127 46.3	69 07.8	127 24.1	68 19.4	127 04.6
20	69 27.5	120 47.5	68 38.6	120 45.7	67 50.0	120 44.7
25	68 45.6	114 22.1	67 57.3	114 37.9	67 09.4	114 53.2
19 30	+67 52.9	+108 30.5	+67 05.9	+109 01.0	+66 19.1	+109 29.9
35	66 51.1	103 11.4	66 05.9	103 53.5	65 20.7	104 33.5
40	65 41.7	98 22.0	64 58.4	99 13.3	64 15.2	100 02.0
45	64 25.8	93 59.3	63 44.7	94 57.5	63 03.6	95 53.0
50	63 04.3	89 59.8	62 25.6	91 03.2	61 46.6	92 03.7
55	61 38.0	86 20.1	61 01.6	87 27.2	60 24.9	88 31.5
20 00	+60 07.2	+ 82 57.0	+59 33.2	+ 84 06.7	+58 58.9	+ 85 13.8
05	58 32.3	79 47.4	58 00.7	80 58.9	57 28.7	82 08.0
10	56 53.3	76 48.5	56 24.2	78 01.2	55 54.6	79 11.7
15	55 10.3	73 57.6	54 43.6	75 11.1	54 16.4	76 22.6
20	53 23.0	71 11.9	52 58.8	72 26.1	52 34.0	73 38.4
25	51 31.0	68 28.9	51 09.4	69 43.5	50 47.0	70 56.4
20 30	+49 33.7	+ 65 45.3	+49 14.7	+ 67 00.5	+48 54.9	+ 68 14.1
35	47 30.0	62 57.7	47 13.8	64 13.7	46 56.7	65 28.1
40	45 18.2	60 01.2	45 05.1	61 18.6	44 51.0	62 34.3
45	42 55.8	56 49.2	42 46.3	58 08.8	42 35.7	59 26.7
50	40 17.8	53 09.8	40 13.1	54 33.8	40 06.8	55 55.7
20 52	+39 08.4	+ 51 29.8	+39 06.0	+ 52 56.6	+39 02.0	+ 54 21.0
54	37 53.7	49 39.2	37 54.3	51 09.9	37 52.9	52 37.8
56	36 32.0	47 33.5	36 36.4	49 10.1	36 38.4	50 42.9
58	34 59.7	45 04.7	35 09.6	46 50.9	35 16.3	48 31.4
21 00	+33 08.7	+ 41 53.8	+33 28.4	+ 43 58.9	+33 42.5	+ 45 53.5
01	31 59.2	39 46.3	32 28.2	42 11.0	32 48.5	44 18.2
02	+30 25.7	+ 36 42.9	31 15.8	39 54.4	31 46.7	42 24.5
03	.. .. .	... .. .	29 31.1	36 21.8	30 30.2	39 56.1
Limit	+28 09	+ 31 45	+27 40	+ 32 12	+27 11	+ 32 38

CENTRAL LINE OF TOTAL PHASE

Universal Time	10,000 Feet		20,000 Feet		30,000 Feet		40,000 Feet	
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
h m	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
18 29	+53 30.2	-149 19.8	+53 41.7	-149 50.5	+53 52.3	-150 19.1	+54 02.1	-150 46.1
30	55 41.8	154 14.8	55 47.3	154 33.1	55 52.7	154 51.1	55 57.9	155 08.7
31	57 07.7	157 37.0	57 11.5	157 51.9	57 15.2	158 06.7	57 18.8	158 21.3
32	58 15.8	160 25.0	58 18.7	160 38.2	58 21.5	160 51.3	58 24.3	161 04.3
33	59 13.6	162 54.1	59 15.9	163 06.2	59 18.1	163 18.2	59 20.3	163 30.1
18 35	+60 49.8	-167 19.5	+60 51.2	-167 30.2	+60 52.6	-167 40.9	+60 54.1	-167 51.5
37	62 08.9	171 19.2	62 09.8	171 29.0	62 10.7	171 38.9	62 11.6	171 48.7
39	63 16.3	175 03.9	63 16.8	175 13.1	63 17.3	175 22.4	63 17.8	175 31.6
41	64 14.7	-178 39.2	64 14.9	-178 48.0	64 15.1	-178 56.7	64 15.3	-179 05.4
43	65 05.8	+177 51.6	65 05.8	+177 43.2	65 05.7	+177 34.9	65 05.7	+177 26.6
18 45	+65 50.8	+174 26.5	+65 50.5	+174 18.5	+65 50.2	+174 10.6	+65 50.0	+174 02.6
50	67 20.5	166 04.5	67 19.8	165 57.4	67 19.0	165 50.4	67 18.3	165 43.3
55	68 22.9	157 52.0	68 21.9	157 45.8	68 20.8	157 39.7	68 19.8	157 33.5
19 00	+69 02.2	+149 48.7	+69 00.9	+149 43.5	+68 59.6	+149 38.3	+68 58.3	+149 33.1
05	69 20.9	141 58.8	69 19.4	141 54.6	69 18.0	141 50.4	69 16.5	141 46.3
10	69 21.5	134 28.1	69 19.9	134 24.9	69 18.3	134 21.7	69 16.7	134 18.6
15	69 06.2	127 21.9	69 04.5	127 19.8	69 02.8	127 17.6	69 01.2	127 15.4
20	68 36.9	120 44.4	68 35.2	120 43.1	68 33.5	120 41.9	68 31.8	120 40.6
25	67 55.7	114 37.4	67 54.0	114 36.9	67 52.3	114 36.5	67 50.7	114 36.0
19 30	+67 04.3	+109 01.2	+67 02.7	+109 01.4	+67 01.1	+109 01.6	+66 59.4	+109 01.8
35	66 04.3	103 54.3	66 02.7	103 55.1	66 01.2	103 55.8	65 59.6	103 56.6
40	64 57.0	99 14.6	64 55.5	99 15.8	64 54.0	99 17.0	64 52.5	99 18.2
45	63 43.4	94 59.2	63 42.0	95 00.8	63 40.6	95 02.4	63 39.2	95 04.0
50	62 24.3	91 05.1	62 23.0	91 07.0	62 21.8	91 08.9	62 20.5	91 10.8
55	61 00.4	87 29.3	60 59.3	87 31.5	60 58.1	87 33.7	60 56.9	87 35.8
20 00	+59 32.2	+ 84 09.1	+59 31.1	+ 84 11.4	+59 30.0	+ 84 13.8	+59 29.0	+ 84 16.2
05	57 59.8	81 01.5	57 58.8	81 04.0	57 57.9	81 06.5	57 56.9	81 09.1
10	56 23.4	78 04.0	56 22.5	78 06.7	56 21.7	78 09.4	56 20.9	78 12.1
15	54 42.9	75 14.0	54 42.2	75 16.9	54 41.5	75 19.7	54 40.8	75 22.6
20	52 58.2	72 29.1	52 57.6	72 32.2	52 57.1	72 35.2	52 56.5	72 38.1
25	51 08.9	69 46.7	51 08.5	69 49.9	51 08.0	69 53.0	51 07.6	69 56.2
20 30	+49 14.4	+ 67 03.9	+49 14.1	+ 67 07.2	+49 13.8	+ 67 10.6	+49 13.4	+ 67 13.9
35	47 13.6	64 17.2	47 13.5	64 20.8	47 13.3	64 24.3	47 13.2	64 27.9
40	45 05.2	61 22.4	45 05.2	61 26.2	45 05.3	61 30.0	45 05.3	61 33.8
45	42 46.6	58 13.0	42 46.9	58 17.2	42 47.2	58 21.3	42 47.5	58 25.5
50	40 13.7	54 38.5	40 14.3	54 43.2	40 14.9	54 47.9	40 15.5	54 52.6
20 52	+39 06.8	+ 53 01.6	+39 07.5	+ 53 06.7	+39 08.3	+ 53 11.7	+39 09.0	+ 53 16.7
54	37 55.3	51 15.4	37 56.2	51 20.8	37 57.2	51 26.3	37 58.2	51 31.7
56	36 37.7	49 16.2	36 38.9	49 22.2	36 40.2	49 28.2	36 41.4	49 34.2
58	35 11.3	46 57.8	35 13.0	47 04.7	35 14.7	47 11.6	35 16.3	47 18.4
20 59	+34 23.4	+ 45 37.9	+34 25.4	+ 45 45.5	+34 27.3	+ 45 53.0	+34 29.2	+ 46 00.4
00	33 30.8	44 07.4	33 33.2	44 15.9	33 35.5	44 24.3	33 37.8	44 32.5
01	32 31.3	42 21.0	32 34.3	42 30.9	32 37.2	42 40.6	32 40.1	42 50.2
02	31 20.0	40 07.2	31 24.1	40 19.7	31 28.1	40 31.9	31 32.0	40 43.9
03	+29 39.6	+ 36 44.6	+29 47.4	+ 37 05.7	+29 54.6	+ 37 25.5	+30 01.4	+ 37 44.3

DURATION OF TOTAL PHASE AND WIDTH OF PATH ON CENTRAL LINE

Universal Time	10,000 Feet		20,000 Feet		30,000 Feet		40,000 Feet	
	Duration	Width of Path	Duration	Width of Path	Duration	Width of Path	Duration	Width of Path
h m	m s	mi	m s	mi	m s	mi	m s	mi
18 29	1 23.3	90	1 23.9	90	1 24.4	90	1 24.8	91
30	1 29.0	94	1 29.3	94	1 29.6	94	1 29.9	94
31	1 32.8	95	1 33.0	95	1 33.3	95	1 33.5	95
32	1 36.0	96	1 36.2	96	1 36.4	96	1 36.6	96
33	1 38.7	98	1 38.9	98	1 39.1	98	1 39.3	98
18 35	1 43.5	99	1 43.6	99	1 43.8	99	1 44.0	99
37	1 47.6	101	1 47.7	100	1 47.9	100	1 48.0	100
39	1 51.3	102	1 51.4	102	1 51.6	102	1 51.7	102
41	1 54.6	102	1 54.8	102	1 54.9	102	1 55.0	102
43	1 57.7	103	1 57.9	103	1 58.0	103	1 58.1	103
18 45	2 00.6	104	2 00.7	104	2 00.9	104	2 01.0	103
50	2 07.0	105	2 07.1	105	2 07.3	105	2 07.4	105
55	2 12.6	106	2 12.7	106	2 12.8	106	2 12.9	106
19 00	2 17.4	106	2 17.5	106	2 17.6	106	2 17.7	106
05	2 21.6	107	2 21.7	107	2 21.8	107	2 21.9	107
10	2 25.1	108	2 25.2	108	2 25.3	108	2 25.4	108
15	2 28.1	109	2 28.3	109	2 28.4	109	2 28.5	109
20	2 30.6	109	2 30.8	109	2 30.9	109	2 30.9	109
25	2 32.6	109	2 32.7	109	2 32.8	110	2 32.9	110
19 30	2 34.1	110	2 34.2	109	2 34.3	110	2 34.4	110
35	2 35.1	110	2 35.2	110	2 35.3	110	2 35.4	110
40	2 35.6	111	2 35.7	111	2 35.8	110	2 35.9	110
45	2 35.7	111	2 35.8	111	2 35.9	111	2 36.0	111
50	2 35.3	112	2 35.4	112	2 35.5	111	2 35.6	111
55	2 34.4	112	2 34.5	112	2 34.6	112	2 34.7	112
20 00	2 33.1	113	2 33.2	112	2 33.3	112	2 33.4	112
05	2 31.3	113	2 31.4	113	2 31.5	113	2 31.6	113
10	2 29.1	113	2 29.2	113	2 29.3	113	2 29.4	113
15	2 26.4	113	2 26.5	113	2 26.6	113	2 26.7	113
20	2 23.2	113	2 23.3	113	2 23.4	114	2 23.5	113
25	2 19.6	113	2 19.7	113	2 19.8	113	2 19.9	113
20 30	2 15.4	113	2 15.5	113	2 15.6	113	2 15.7	113
35	2 10.7	113	2 10.8	113	2 10.9	113	2 11.0	112
40	2 05.4	112	2 05.5	111	2 05.6	111	2 05.7	111
45	1 59.3	110	1 59.4	110	1 59.5	110	1 59.7	110
50	1 52.3	108	1 52.4	108	1 52.5	108	1 52.7	108
20 52	1 49.1	106	1 49.2	106	1 49.4	106	1 49.5	106
54	1 45.7	105	1 45.8	105	1 46.0	105	1 46.1	105
56	1 41.9	103	1 42.0	103	1 42.2	103	1 42.3	103
58	1 37.6	101	1 37.8	101	1 37.9	101	1 38.1	101
21 00	1 32.6	98	1 32.8	98	1 33.0	98	1 33.2	98
01	1 29.5	95	1 29.8	95	1 30.0	95	1 30.2	95
02	1 25.8	93	1 26.1	93	1 26.4	93	1 26.7	93
03	1 20.6	89	1 21.1	89	1 21.6	89	1 22.0	90

CENTRAL LINE OF TOTAL PHASE

Universal Time	80 Km		100 Km		200 Km		300 Km	
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
h m	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
18 22	.. .. .	... .. .	.. .. .	... .. .	.. .. .	... .. .	+50 20.8	-150 33.4
23	.. .. .	... .. .	.. .. .	... .. .	.. .. .	... .. .	53 05.4	156 42.5
24	.. .. .	... .. .	.. .. .	... .. .	.. .. .	... .. .	54 34.6	160 12.4
25	.. .. .	... .. .	.. .. .	... .. .	+53 19.5	-154 31.5	55 43.1	163 00.2
26	.. .. .	... .. .	.. .. .	... .. .	54 58.4	158 21.0	56 40.3	165 26.3
27	+52 03.0	-148 21.9	+53 25.9	-151 58.1	56 11.7	161 18.6	57 30.0	167 38.6
18 28	+54 43.0	-154 17.6	+55 19.3	-156 16.7	+57 12.1	-163 51.3	+58 14.3	-169 41.3
30	57 24.5	160 42.6	57 43.1	162 06.9	58 50.5	168 16.0	59 31.1	173 27.5
32	59 14.9	165 30.6	59 26.6	166 42.5	60 10.3	172 09.9	60 36.4	-176 56.4
34	60 42.3	169 39.9	60 49.9	170 44.9	61 17.9	175 45.9	61 32.9	+179 45.9
36	61 55.4	173 28.3	62 00.1	174 28.6	62 16.3	-179 10.5	62 22.5	176 36.0
38	62 58.1	-177 03.8	63 00.7	-178 00.6	63 07.4	+177 32.8	63 06.4	173 31.8
18 40	+63 52.8	+179 29.1	+63 53.6	+178 35.1	+63 52.5	+174 21.5	+63 45.1	+170 31.8
45	65 42.4	171 12.4	65 39.7	170 24.5	65 23.4	166 38.8	65 03.5	163 14.7
50	67 01.6	163 12.2	66 56.4	162 29.7	66 28.8	159 10.4	65 59.3	156 11.0
55	67 56.1	155 22.1	67 49.0	154 45.2	67 12.8	151 53.1	66 36.1	149 19.0
19 00	+68 29.3	+147 42.6	+68 20.8	+147 11.8	+67 38.2	+144 48.0	+66 56.1	+142 39.9
05	68 43.8	140 17.6	68 34.2	139 52.9	67 47.1	137 58.1	67 01.2	136 16.1
10	68 41.6	133 11.8	68 31.4	132 53.2	67 41.3	131 26.9	66 53.0	130 10.3
15	68 24.7	126 29.5	68 14.1	126 16.8	67 22.6	125 17.4	66 33.1	124 24.6
20	67 55.0	120 13.8	67 44.3	120 06.3	66 52.5	119 31.5	66 02.8	119 00.5
25	67 14.2	114 26.0	67 03.7	114 23.2	66 12.5	114 10.1	65 23.4	113 58.4
19 30	+66 24.0	+109 06.1	+66 13.7	+109 07.3	+65 23.9	+109 13.0	+64 36.1	+109 18.1
35	65 25.6	104 12.9	65 15.8	104 17.5	64 27.8	104 39.1	63 41.9	104 58.6
40	64 20.3	99 44.5	64 10.9	99 51.9	63 25.4	100 26.8	62 41.6	100 58.5
45	63 09.0	95 38.3	63 00.2	95 48.0	62 17.2	96 34.0	61 35.9	97 16.0
50	61 52.3	91 51.8	61 44.2	92 03.4	61 04.1	92 58.6	60 25.4	93 49.3
55	60 31.0	88 22.3	60 23.5	88 35.5	59 46.5	89 38.4	59 10.7	90 36.5
20 00	+59 05.5	+ 85 07.2	+58 58.6	+ 85 21.8	+58 24.8	+ 86 31.2	+57 51.9	+ 87 35.6
05	57 35.8	82 04.1	57 29.7	82 19.8	56 59.2	83 35.0	56 29.4	84 45.0
10	56 02.3	79 10.6	55 56.8	79 27.4	55 29.8	80 47.6	55 03.2	82 02.7
15	54 24.8	76 24.4	54 20.1	76 42.1	53 56.6	78 07.2	53 33.3	79 26.9
20	52 43.2	73 43.2	52 39.3	74 01.9	52 19.6	75 31.6	51 59.7	76 55.8
25	50 57.2	71 04.7	50 54.1	71 24.3	50 38.4	72 58.8	50 22.2	74 27.6
20 30	+49 06.3	+ 68 26.1	+49 04.1	+ 68 46.8	+48 52.5	+ 70 26.5	+48 40.3	+ 72 00.3
35	47 09.5	65 44.5	47 08.3	66 06.5	47 01.5	67 52.2	46 53.5	69 31.5
40	45 05.7	62 56.1	45 05.6	63 19.6	45 04.1	65 12.6	45 01.0	66 58.4
45	42 52.8	59 55.3	42 54.1	60 20.9	42 58.9	62 23.3	43 01.5	64 17.5
50	40 27.3	56 33.6	40 30.4	57 02.2	40 43.4	59 18.1	40 53.0	61 23.5
55	37 42.7	52 35.2	37 48.4	53 08.8	38 13.0	55 45.9	38 32.1	58 08.0
21 00	+34 21.9	+ 47 20.1	+34 32.9	+ 48 04.6	+35 18.1	+ 51 23.9	+35 52.1	+ 54 15.4
02	32 40.0	44 25.6	32 55.5	45 20.2	33 56.3	49 13.5	34 39.8	52 24.9
04	30 24.0	40 11.9	30 51.2	41 33.6	32 22.2	46 35.5	33 20.0	50 18.1
21 05	+28 27.0	+ 36 09.3	+29 21.7	+ 38 36.1	+31 27.6	+ 44 59.2	+32 36.2	+ 49 06.0
06	.. .. .	... .. .	.. .. .	... .. .	30 24.4	43 02.6	31 48.8	47 45.6
07	.. .. .	... .. .	.. .. .	... .. .	+29 03.9	40 25.8	30 56.3	46 13.5
08	.. .. .	... .. .	.. .. .	... .. .	.. .. .	... .. .	29 56.1	44 23.6
09	.. .. .	... .. .	.. .. .	... .. .	.. .. .	... .. .	28 41.9	42 00.8
10	.. .. .	... .. .	.. .. .	... .. .	.. .. .	... .. .	+26 42.2	+ 37 49.7

DURATION OF TOTAL PHASE AND WIDTH OF PATH ON CENTRAL LINE

Universal Time	80 Km Duration	80 Km Width of Path	100 Km Duration	100 Km Width of Path	200 Km Duration	200 Km Width of Path	300 Km Duration	300 Km Width of Path
h m	m s	mi	m s	mi	m s	mi	m s	mi
18 22	. .. .	...	. .. .	...	. .. .	...	1 20.6	85
23	. .. .	...	. .. .	...	. .. .	...	1 28.2	90
24	. .. .	...	. .. .	...	. .. .	...	1 32.6	92
25	. .. .	...	. .. .	...	1 26.8	90	1 36.0	93
26	. .. .	...	. .. .	...	1 31.4	92	1 39.0	95
27	1 21.1	88	1 25.0	90	1 35.0	94	1 41.7	95
18 28	1 28.0	92	1 30.1	93	1 38.0	95	1 44.2	96
30	1 35.5	96	1 36.9	96	1 43.2	97	1 48.7	98
32	1 41.0	97	1 42.1	97	1 47.6	98	1 52.6	99
34	1 45.5	99	1 46.6	99	1 51.6	100	1 56.3	100
36	1 49.5	100	1 50.5	100	1 55.2	101	1 59.6	100
38	1 53.1	101	1 54.0	101	1 58.5	101	2 02.8	101
18 40	1 56.4	102	1 57.3	102	2 01.6	102	2 05.7	102
45	2 03.7	104	2 04.5	104	2 08.5	103	2 12.4	103
50	2 10.0	104	2 10.7	105	2 14.5	105	2 18.3	105
55	2 15.4	106	2 16.1	105	2 19.8	105	2 23.4	105
19 00	2 20.1	107	2 20.8	106	2 24.4	106	2 28.0	106
05	2 24.2	107	2 24.9	107	2 28.4	106	2 31.9	106
10	2 27.8	108	2 28.4	108	2 31.9	107	2 35.3	107
15	2 30.8	108	2 31.4	108	2 34.8	108	2 38.2	107
20	2 33.2	108	2 33.9	109	2 37.2	108	2 40.6	108
25	2 35.2	109	2 35.8	109	2 39.2	109	2 42.5	109
19 30	2 36.6	109	2 37.3	109	2 40.6	109	2 43.9	109
35	2 37.6	110	2 38.3	109	2 41.6	110	2 44.9	110
40	2 38.1	110	2 38.8	110	2 42.1	110	2 45.4	110
45	2 38.2	111	2 38.8	110	2 42.1	110	2 45.4	110
50	2 37.8	111	2 38.4	111	2 41.6	110	2 44.9	110
55	2 36.9	112	2 37.5	111	2 40.8	111	2 44.0	110
20 00	2 35.6	112	2 36.2	112	2 39.4	111	2 42.7	111
05	2 33.8	112	2 34.4	112	2 37.7	112	2 40.9	111
10	2 31.5	112	2 32.2	113	2 35.4	112	2 38.7	111
15	2 28.9	112	2 29.5	113	2 32.8	112	2 36.0	112
20	2 25.7	113	2 26.4	113	2 29.6	112	2 32.9	112
25	2 22.1	112	2 22.8	113	2 26.1	112	2 29.4	112
20 30	2 18.0	112	2 18.7	113	2 22.0	112	2 25.3	112
35	2 13.3	112	2 14.0	112	2 17.4	112	2 20.8	111
40	2 08.1	112	2 08.8	111	2 12.3	111	2 15.8	111
45	2 02.2	110	2 02.9	110	2 06.6	110	2 10.2	110
50	1 55.4	108	1 56.2	108	2 00.1	108	2 03.9	109
55	1 47.4	104	1 48.3	105	1 52.6	105	1 56.7	106
21 00	1 37.3	100	1 38.4	100	1 43.6	101	1 48.3	103
02	1 32.0	96	1 33.4	97	1 39.3	99	1 44.5	101
04	1 24.9	91	1 26.9	93	1 34.3	96	1 40.2	99
21 05	1 18.7	86	1 22.1	89	1 31.4	94	1 37.8	97
06	. .. .	...	. .. .	...	1 28.0	92	1 35.2	95
07	. .. .	...	. .. .	...	1 23.6	89	1 32.3	94
08	. .. .	...	. .. .	...	. .. .	...	1 29.0	91
09	. .. .	...	. .. .	...	. .. .	...	1 24.9	89
10	. .. .	...	. .. .	...	. .. .	...	1 18.2	84

LOCAL CIRCUMSTANCES FOR POINTS ON CENTRAL LINE

Universal Time	Central Line Latitude	Central Line Longitude	First Contact Universal Time	First Contact P	First Contact V	Second Contact Universal Time	Second Contact P	Second Contact V
h m	° ′	° ′	h m s	°	°	h m s	°	°
18 29	+53 17.4	-148 46.4	.. ..	...	...	18 28 17.5	97	130
30	55 36.1	153 56.0	17 37 41.0	278	306	18 29 14.5	97	130
31	57 03.8	157 21.9	17 37 48.5	278	306	18 30 12.5	98	130
32	58 12.9	160 11.7	17 38 05.4	278	306	16 31 10.9	98	130
33	59 11.3	162 42.0	17 38 27.5	278	306	18 32 09.5	98	129
18 35	+60 48.3	-167 08.7	17 39 21.5	278	306	18 34 07.0	98	129
37	62 07.9	171 09.3	17 40 23.9	279	306	18 36 04.9	99	129
39	63 15.7	174 54.6	17 41 31.7	279	306	18 38 03.1	99	128
41	64 14.4	-178 30.4	17 42 43.6	279	306	18 40 01.4	99	128
43	65 05.8	+178 00.0	17 43 58.7	279	306	18 41 59.8	100	127
18 45	+65 51.0	+174 34.5	17 45 16.4	280	306	18 43 58.4	100	126
50	67 21.2	166 11.7	17 48 39.8	280	305	18 48 55.1	101	125
55	68 24.0	157 58.3	17 52 13.8	281	304	18 53 52.3	102	123
19 00	+69 03.5	+149 54.0	17 55 56.4	282	303	18 58 49.9	102	121
05	69 22.4	142 03.1	17 59 46.4	282	302	19 03 47.8	103	119
10	69 23.2	134 31.3	18 03 43.4	283	301	19 08 46.0	104	117
15	69 07.8	127 24.1	18 07 47.0	284	300	19 13 44.4	105	114
20	68 38.6	120 45.7	18 11 57.1	284	298	19 18 43.1	105	111
25	67 57.3	114 37.9	18 16 13.4	285	296	19 23 42.1	106	109
19 30	+67 05.9	+109 01.0	18 20 36.2	286	294	19 28 41.4	107	106
35	66 05.9	103 53.5	18 25 05.3	287	292	19 33 40.9	107	102
40	64 58.4	99 13.3	18 29 41.0	287	289	19 38 40.6	108	99
45	63 44.7	94 57.5	18 34 23.4	288	286	19 43 40.6	108	96
50	62 25.6	91 03.2	18 39 12.5	288	283	19 48 40.8	109	93
55	61 01.6	87 27.2	18 44 08.6	289	280	19 53 41.2	110	89
20 00	+59 33.2	+ 84 06.7	18 49 11.9	290	276	19 58 41.9	110	86
05	58 00.7	80 58.9	18 54 22.6	290	272	20 03 42.8	111	83
10	56 24.2	78 01.2	18 59 40.6	291	268	20 08 43.9	111	79
15	54 43.6	75 11.1	19 05 06.5	291	264	20 13 45.3	111	76
20	52 58.8	72 26.1	19 10 40.6	292	260	20 18 46.9	112	73
25	51 09.4	69 43.5	19 16 23.0	292	256	20 23 48.7	112	70
20 30	+49 14.7	+ 67 00.5	19 22 14.3	292	252	20 28 50.8	112	68
35	47 13.8	64 13.7	19 28 15.5	293	248	20 33 53.2	112	65
40	45 05.1	61 18.6	19 34 27.4	293	244	20 38 55.9	112	63
45	42 46.3	58 08.8	19 40 52.0	293	241	20 43 59.0	112	60
50	40 13.1	54 33.8	19 47 32.5	293	237	20 49 02.5	112	58
20 52	+39 06.0	+ 52 56.6	19 50 18.6	293	236	20 51 04.1	112	57
54	37 54.3	51 09.9	19 53 09.1	293	235	20 53 05.9	112	56
56	36 36.4	49 10.1	19 56 05.2	293	233	20 55 07.8	112	55
58	35 09.6	46 50.9	19 59 09.2	293	232	20 57 10.0	112	54
21 00	+33 28.4	+ 43 58.9	20 02 25.7	292	230	20 59 12.5	111	53
01	32 28.2	42 11.0	20 04 12.0	292	229	21 00 14.1	111	52
02	31 15.8	39 54.4	20 06 08.6	292	229	21 01 16.0	111	51
03	+29 31.1	+ 36 21.8	20 08 31.7	292	227	21 02 18.7	111	51

LOCAL CIRCUMSTANCES FOR POINTS ON CENTRAL LINE

Maximum Eclipse: Universal Time	Magnitude	Sun's Alt.	Sun's Az.	Third Contact: Universal Time	P	V	Fourth Contact: Universal Time	P	V	Duration	Width of Path
h m s		°	°	h m s	°	°	h m s	°	°	m s	mi
18 29 00.0	1.028	4	57	18 29 42.5	277	310	19 22 42.5	97	134	1 25.0	90
18 30 00.0	1.029	8	61	18 30 45.5	277	310	19 25 10.4	98	133	1 31.0	93
18 31 00.0	1.029	10	65	18 31 47.5	278	310	19 27 08.1	98	133	1 35.0	95
18 32 00.0	1.030	12	67	18 32 49.1	278	310	19 28 55.0	98	132	1 38.2	96
18 33 00.0	1.031	14	70	18 33 50.5	278	310	19 30 35.5	98	131	1 41.0	97
18 35 00.0	1.031	17	74	18 35 53.0	278	309	19 33 44.8	99	131	1 46.0	99
18 37 00.0	1.032	19	78	18 37 55.1	279	309	19 36 43.9	99	129	1 50.2	101
18 39 00.0	1.033	21	83	18 39 56.9	279	308	19 39 36.0	99	128	1 53.8	101
18 41 00.0	1.033	23	87	18 41 58.6	279	308	19 42 22.9	100	127	1 57.2	102
18 43 00.0	1.034	25	90	18 44 00.2	280	307	19 45 05.5	100	126	2 00.4	103
18 45 00.0	1.034	26	94	18 46 01.6	280	306	19 47 44.6	101	125	2 03.2	104
18 50 00.0	1.035	30	104	18 51 04.9	281	305	19 54 09.4	101	122	2 09.8	105
18 55 00.0	1.036	33	115	18 56 07.7	282	303	20 00 19.3	102	119	2 15.4	106
19 00 00.0	1.036	35	125	19 01 10.1	282	301	20 06 16.9	103	116	2 20.2	107
19 05 00.0	1.037	38	135	19 06 12.2	283	299	20 12 03.7	104	113	2 24.4	107
19 10 00.0	1.037	40	145	19 11 14.0	284	296	20 17 40.8	105	110	2 28.0	108
19 15 00.0	1.038	41	155	19 16 15.6	285	294	20 23 09.1	105	107	2 31.2	109
19 20 00.0	1.038	43	165	19 21 16.9	285	291	20 28 29.3	106	103	2 33.8	109
19 25 00.0	1.038	44	174	19 26 17.9	286	288	20 33 41.9	107	100	2 35.8	109
19 30 00.0	1.039	45	183	19 31 18.6	287	285	20 38 47.5	107	97	2 37.2	110
19 35 00.0	1.039	46	191	19 36 19.1	287	282	20 43 46.3	108	94	2 38.2	110
19 40 00.0	1.039	46	199	19 41 19.4	288	279	20 48 38.7	108	91	2 38.8	111
19 45 00.0	1.039	46	207	19 46 19.4	288	276	20 53 25.3	109	88	2 38.8	111
19 50 00.0	1.039	46	215	19 51 19.2	289	272	20 58 06.0	109	85	2 38.4	112
19 55 00.0	1.039	46	222	19 56 18.8	290	269	21 02 41.3	110	82	2 37.6	112
20 00 00.0	1.038	45	228	20 01 18.1	290	266	21 07 11.5	110	80	2 36.2	113
20 05 00.0	1.038	45	235	20 06 17.2	291	262	21 11 36.5	111	77	2 34.4	113
20 10 00.0	1.038	43	241	20 11 16.1	291	259	21 15 56.6	111	75	2 32.2	113
20 15 00.0	1.038	42	246	20 16 14.7	291	256	21 20 11.8	111	73	2 29.4	113
20 20 00.0	1.037	41	252	20 21 13.1	292	253	21 24 22.1	111	71	2 26.2	113
20 25 00.0	1.037	39	257	20 26 11.3	292	250	21 28 27.3	112	69	2 22.6	113
20 30 00.0	1.036	37	262	20 31 09.2	292	248	21 32 27.2	112	67	2 18.4	113
20 35 00.0	1.035	34	266	20 36 06.8	292	245	21 36 21.2	112	65	2 13.6	113
20 40 00.0	1.035	31	271	20 41 04.1	292	243	21 40 08.8	112	63	2 08.2	112
20 45 00.0	1.034	28	275	20 46 01.0	292	240	21 43 48.1	112	61	2 02.0	110
20 50 00.0	1.033	24	279	20 50 57.5	292	238	21 47 16.9	112	60	1 55.0	108
20 52 00.0	1.032	22	281	20 52 55.9	292	237	21 48 36.4	111	59	1 51.8	106
20 54 00.0	1.032	20	283	20 54 54.1	292	236	21 49 52.6	111	58	1 48.2	105
20 56 00.0	1.031	18	285	20 56 52.2	292	235	21 51 04.7	111	57	1 44.4	103
20 58 00.0	1.030	15	287	20 58 50.0	292	234	21 52 11.0	111	57	1 40.0	101
21 00 00.0	1.029	12	289	21 00 47.5	291	233	21 53 07.6	111	56	1 35.0	97
21 01 00.0	1.028	10	290	21 01 45.9	291	232	21 53 29.8	110	56	1 31.8	95
21 02 00.0	1.028	8	291	21 02 44.0	291	231	.. ..	...	...	1 28.0	93
21 03 00.0	1.027	4	293	21 03 41.3	291	231	.. ..	...	...	1 22.6	88

LOCAL CIRCUMSTANCES

Geographic Locations	Latitude	Longitude	First Contact Universal Time	P	V	Second Contact Universal Time	P
	° ′	° ′	h m s	°	°	h m s	°
Akulurak, Alaska, U.S.A.	+62 40.0	+164 35.0	17 41 56.1	286	316		
Albany, N.Y., U.S.A.	+42 40.0	+ 73 49.0	19 28 33.4	305	257		
Anadyr, U.S.S.R.	+64 41.0	-177 32.0	17 43 27.5	278	305	18 40 58.4	46
Anaktuvuk Pass, Alaska, U.S.A.	+68 10.0	+152 00.0	17 53 50.8	282	305	18 57 28.9	177
Anchorage, Alaska, U.S.A.	+61 10.0	+150 00.0	17 45 41.8	292	323		
Ann Arbor, Mich., U.S.A.	+42 18.0	+ 83 43.0	19 18 55.5	312	272		
Antigonish, N.S., Can.	+45 39.0	+ 62 00.0	19 32 54.3	293	245	20 37 39.9	110
Arvida, Que., Can.	+48 26.0	+ 71 11.0	19 19 52.3	296	256		
Atka, Alaska, U.S.A.	+52 14.0	+174 15.0	17 27 39.1	295	334		
Atlanta, Ga., U.S.A.	+33 45.0	+ 84 23.0	19 40 04.7	326	266		
Attu, Alaska, U.S.A.	+52 55.0	-173 11.0	17 28 36.2	288	324		
Auburn, Me., U.S.A.	+44 04.0	+ 70 26.0	19 28 53.9	300	253		
Augusta, Me., U.S.A.	+44 17.0	+ 69 50.0	19 29 01.0	300	253		
Austin, Tex., U.S.A.	+30 18.0	+ 97 47.0	19 42 50.3	348	289		
Baie Comeau, Que., Can.	+49 08.0	+ 68 12.0	19 21 22.6	293	253	20 28 54.2	165
Baie de la Trinité, Que., Can.	+49 25.0	+ 67 20.0	19 21 38.6	292	252	20 28 21.8	115
Baker Lake, N.W.T., Can.	+64 18.0	+ 96 00.0	18 33 03.6	287	287	19 42 11.4	94
Baltimore, Md., U.S.A.	+39 18.0	+ 76 38.0	19 33 08.5	311	259		
Bangor, Me., U.S.A.	+44 49.0	+ 68 47.0	19 28 55.0	298	252		
Bar Harbor, Me., U.S.A.	+44 20.0	+ 68 14.0	19 30 20.2	299	251		
Barrow, Alaska, U.S.A.	+71 16.0	+156 50.0	17 57 06.4	278	298		
Bathurst Inlet, N.W.T., Can.	+66 49.0	+108 00.0	18 21 26.9	286	294	19 29 42.5	113
Bathurst, N.B., Can.	+47 37.0	+ 65 40.0	19 26 21.4	293	250	20 32 43.3	146
Belfast, Ireland	+54 35.0	+ 5 55.0	19 31 55.6	258	223		
Bergen, Norway	+60 23.0	- 5 20.0	19 21 23.0	253	226		
Beringovski, U.S.S.R.	+62 59.0	-179 18.0	17 40 48.0	281	309		
Berlin, N.H., U.S.A.	+44 27.0	+ 71 13.0	19 27 25.2	301	255		
Biddeford, Me., U.S.A.	+43 29.0	+ 70 27.0	19 30 02.4	301	253		
Bismarck, N.D., U.S.A.	+46 50.0	+100 48.0	18 46 51.4	316	316		
Bonne Bay, Nfld., Can.	+49 30.0	+ 57 56.0	19 28 56.7	287	243		
Boston, Mass., U.S.A.	+42 20.0	+ 71 05.0	19 31 47.1	303	253		
Buctouche, N.B., Can.	+46 28.0	+ 64 46.0	19 29 13.4	294	248	20 35 56.7	190
Buffalo, N.Y., U.S.A.	+42 52.0	+ 78 55.0	19 22 58.4	308	264		
Burlington, Vt., U.S.A.	+44 28.0	+ 73 14.0	19 25 28.0	302	257		
Calais, Me., U.S.A.	+45 11.0	+ 67 16.0	19 29 32.2	297	250		
Calgary, Alta., Can.	+51 05.0	+114 05.0	18 20 59.5	312	336		
Campbellton, N.B., Can.	+48 00.0	+ 66 41.0	19 24 46.9	294	251	20 31 52.0	170
Canso, N.S., Can.	+45 20.0	+ 61 00.0	19 34 13.6	292	244	20 38 40.6	88
Cap Chat, Que., Can.	+49 06.0	+ 66 42.0	19 22 46.3	292	252	20 29 16.4	109
Cape Parry, N.W.T., Can.	+70 10.0	+124 41.0	18 10 22.9	282	296		
Caraquet, N.B., Can.	+47 48.0	+ 64 59.0	19 26 35.6	293	249	20 32 30.1	111
Carmacks, Yukon, Can.	+62 04.0	+136 21.0	17 55 30.7	293	320		
Causapscal, Que., Can.	+48 22.0	+ 67 14.0	19 23 37.9	294	252	20 30 57.1	172
Chandler, Que., Can.	+48 21.0	+ 64 41.0	19 25 50.6	292	249	20 31 52.9	71
Charlottetown, P.E.I., Can.	+46 17.0	+ 63 08.0	19 30 52.1	293	247	20 36 05.2	119
Chatham, N.B., Can.	+47 01.0	+ 65 27.0	19 27 38.5	294	249	20 34 27.2	180
Chesterfield, N.W.T., Can.	+63 20.0	+ 90 43.0	18 38 48.7	287	282		
Chicago, Ill., U.S.A.	+41 50.0	+ 87 45.0	19 15 16.6	316	280		
Chicoutimi, Que., Can.	+48 26.0	+ 71 06.0	19 19 57.0	296	256		
Chignik, Alaska, U.S.A.	+56 18.0	+158 27.0	17 36 18.2	296	333		
Churchill, Man., Can.	+58 45.0	+ 94 00.0	18 39 19.0	294	290		
Chute-aux-Outardes, Que., Can.	+49 17.0	+ 67 57.0	19 21 20.0	293	253	20 28 28.0	144
Clark's Harbour, N.S., Can.	+43 25.0	+ 65 36.0	19 34 16.9	298	248		
Cleveland, Ohio, U.S.A.	+41 30.0	+ 81 41.0	19 23 00.1	312	268		
Cochrane, Ont., Can.	+49 04.0	+ 81 02.0	19 08 19.9	301	271		

LOCAL CIRCUMSTANCES

Maximum Eclipse Universal Time	Magnitude	Sun's Alt.	Sun's Az.	Third Contact Universal Time	P	V	Fourth Contact Universal Time	P	V	Duration	Width of Path
h m s		°	°	h m s	°	°	h m s	°	°	m s	mi
18 43 46.7	0.906	31	102				19 49 10.0	95	121		
20 38 28.3	0.831	41	263				21 42 02.3	103	50		
18 41 32.9	1.033	23	86	18 42 07.4	333	1	19 42 40.3	101	128	1 09.0	102
18 57 47.0	1.036	35	121	18 58 05.2	207	227	20 04 09.2	102	117	0 36.3	106
18 50 51.7	0.823	39	117				19 59 30.8	92	113		
20 31 06.3	0.697	49	254				21 36 47.7	96	42		
20 38 44.6	1.035	32	270	20 39 49.3	295	246	21 39 11.0	112	64	2 09.4	112
20 29 15.8	0.960	39	259				21 33 03.5	109	63		
18 24 36.7	0.713	24	84				19 26 00.9	81	122		
20 46 48.8	0.509	48	266				21 47 01.0	85	22		
18 23 37.1	0.819	16	75				19 22 31.4	87	127		
20 37 53.5	0.897	38	265				21 40 49.0	106	55		
20 37 49.0	0.907	38	265				21 40 36.1	106	56		
20 36 07.1	0.220	62	260				21 25 22.0	65	356		
20 29 36.6	1.036	37	261	20 30 19.0	240	195	21 32 27.7	111	66	1 24.8	113
20 29 31.1	1.036	37	261	20 30 40.5	289	245	21 32 05.5	112	67	2 18.7	113
19 43 28.3	1.039	46	205	19 44 45.1	302	291	20 51 51.4	109	89	2 33.7	111
20 42 52.3	0.733	42	265				21 45 56.7	98	41		
20 37 22.6	0.929	37	265				21 39 55.9	107	58		
20 38 33.4	0.927	36	266				21 40 51.2	107	57		
18 59 19.1	0.956	32	118				20 03 36.1	106	120		
19 31 00.8	1.039	45	184	19 32 19.1	280	278	20 39 51.9	107	96	2 36.6	110
20 33 39.9	1.036	35	265	20 34 36.5	259	212	21 35 32.6	111	65	1 53.2	113
20 17 01.8	0.522	4	304				.. ..	...	...		
20 04 22.3	0.464	4	311				.. ..	...	...		
18 39 09.8	0.987	23	86				19 40 48.4	98	127		
20 36 43.6	0.894	39	264				21 39 57.8	106	55		
20 38 58.3	0.887	38	265				21 41 46.9	105	54		
20 01 01.1	0.591	61	217				21 10 54.8	88	47		
20 32 58.3	0.920	30	269				21 32 15.4	116	73		
20 40 45.7	0.859	38	266				21 43 29.3	104	51		
20 36 11.3	1.035	34	267	20 36 25.9	215	167	21 37 39.1	111	63	0 29.2	113
20 34 21.0	0.770	45	258				21 39 15.8	99	47		
20 35 27.6	0.870	40	262				21 39 17.9	105	54		
20 37 26.9	0.952	36	266				21 39 34.5	109	59		
19 33 59.7	0.590	61	176				20 46 04.4	85	65		
20 32 28.9	1.036	36	264	20 33 05.8	235	189	21 34 44.2	111	65	1 13.8	113
20 39 38.9	1.035	31	271	20 40 37.3	316	267	21 39 43.1	112	64	1 56.7	112
20 30 25.2	1.036	36	262	20 31 34.0	296	251	21 32 45.5	112	67	2 17.6	113
19 17 15.0	0.990	41	159				20 24 47.9	107	107		
20 33 37.5	1.036	35	265	20 34 44.9	293	247	21 35 17.1	112	65	2 14.8	113
19 03 49.4	0.832	45	137				20 14 32.6	94	104		
20 31 31.9	1.036	37	263	20 32 06.6	232	187	21 34 00.1	111	65	1 09.5	113
20 32 43.9	1.036	35	265	20 33 34.9	333	287	21 34 19.7	112	67	1 42.0	113
20 37 10.5	1.035	33	268	20 38 15.8	285	237	21 38 04.0	112	64	2 10.6	112
20 34 52.6	1.036	35	266	20 35 17.9	224	177	21 36 37.6	111	64	0 50.7	113
19 49 03.9	0.999	45	214				20 56 45.8	110	87		
20 27 42.3	0.634	53	250				21 33 46.0	92	39		
20 29 18.8	0.961	39	259				21 33 04.9	109	63		
18 38 23.4	0.724	35	102				19 44 51.8	84	116		
19 52 16.3	0.925	50	214				21 02 06.2	105	77		
20 29 27.5	1.036	37	261	20 30 27.0	261	216	21 32 14.0	111	66	1 59.0	113
20 41 26.5	0.942	34	269				21 42 45.7	108	57		
20 34 33.7	0.708	47	257				21 39 32.3	96	42		
20 20 52.6	0.861	47	247				21 27 45.7	104	59		

LOCAL CIRCUMSTANCES

Geographic Locations	Latitude	Longitude	First Contact Universal Time	P	V	Second Contact Universal Time	P
	° ′	° ′	h m s	°	°	h m s	°
College, Alaska, U.S.A.	+64 54.0	+147 55.0	17 51 11.4	287	313		
Columbus, Ohio, U.S.A.	+39 59.0	+ 83 03.0	19 25 02.8	315	269		
Concord, N.H., U.S.A.	+43 13.0	+ 71 34.0	19 29 33.2	302	254		
Copper Lake, N.S., Can.	+45 23.0	+ 61 58.0	19 33 25.3	293	245	20 38 10.6	122
Coppermine, N.W.T., Can.	+67 49.0	+115 05.0	18 15 49.3	285	297	19 23 24.1	120
Cordova, Alaska, U.S.A.	+60 29.0	+145 52.0	17 47 25.2	294	325		
Corner Brook, Nfld., Can.	+48 58.0	+ 57 58.0	19 29 51.5	287	243		
Dalhousie, N.B., Can.	+48 03.0	+ 66 22.0	19 24 57.9	293	251	20 31 38.0	150
Dartmouth, N.S., Can.	+44 40.0	+ 63 35.0	19 33 31.4	295	246		
Dawson, Yukon, Can.	+64 04.0	+139 24.0	17 55 09.4	290	315		
Dawson Creek, B.C., Can.	+55 44.0	+120 15.0	18 09 39.8	304	330		
Denver, Colo., U.S.A.	+39 45.0	+105 00.0	18 58 23.2	332	337		
Des Moines, Iowa, U.S.A.	+41 35.0	+ 93 35.0	19 08 37.3	321	295		
Detroit, Mich., U.S.A.	+42 23.0	+ 83 05.0	19 19 27.5	312	271		
Dillingham, Alaska, U.S.A.	+59 03.0	+158 30.0	17 39 14.2	292	326		
Duluth, Minn., U.S.A.	+46 45.0	+ 92 10.0	18 58 56.7	311	294		
Dundas, Greenland	+76 30.0	+ 68 58.0	18 42 30.8	268	260		
Dutch Harbor, Alaska, U.S.A.	+53 55.0	+166 36.0	17 30 53.0	296	335		
Edmonton, Alta., Can.	+53 34.0	+113 25.0	18 19 35.3	307	328		
Egvekinot, U.S.S.R.	+66 16.0	+179 10.0	17 45 49.8	278	303		
Ellsworth, Me., U.S.A.	+44 34.0	+ 68 24.0	19 29 44.3	298	251		
Erie, Pa., U.S.A.	+42 07.0	+ 80 05.0	19 23 21.2	310	266		
Eskimo Point, N.W.T., Can.	+61 10.0	+ 94 15.0	18 36 55.7	291	288		
Fairbanks, Alaska, U.S.A.	+64 50.0	+147 50.0	17 51 08.9	287	314		
Flin Flon, Man., Can.	+54 47.0	+101 51.0	18 33 43.7	303	308		
Flint, Mich., U.S.A.	+43 03.0	+ 83 40.0	19 17 18.7	311	273		
Fort Chimo, Que., Can.	+58 10.0	+ 68 15.0	19 06 14.5	284	257		
Fort George, Que., Can.	+53 50.0	+ 79 01.0	19 02 31.6	294	269		
Fort Kent, Me., U.S.A.	+47 15.0	+ 68 35.0	19 24 28.9	296	253		
Fort McPherson, N.W.T., Can.	+67 29.0	+134 50.0	18 01 31.7	286	306		
Fort Providence, N.W.T., Can.	+61 03.0	+117 40.0	18 11 58.6	295	314		
Fort Randall, Alaska, U.S.A.	+55 10.0	+162 47.0	17 33 23.1	296	334		
Fort Resolution, N.W.T., Can.	+61 10.0	+113 39.0	18 16 08.8	295	310		
Fort St. John, B.C., Can.	+56 14.0	+120 55.0	18 08 44.0	303	329		
Fort Severn, Ont., Can.	+56 00.0	+ 87 40.0	18 49 42.5	296	283		
Fort Smith, N.W.T., Can.	+60 01.0	+111 55.0	18 18 12.2	297	311		
Fort Vermilion, Alta., Can.	+58 22.0	+115 59.0	18 14 00.7	300	319		
Fort William, Ont., Can.	+48 23.0	+ 89 16.0	18 59 36.7	307	287		
Fort Yukon, Alaska, U.S.A.	+66 35.0	+145 20.0	17 54 35.8	286	309		
Fredericton, N.B., Can.	+45 57.0	+ 66 40.0	19 28 35.9	296	250		
Gander, Nfld., Can.	+48 58.0	+ 54 34.0	19 32 05.8	285	240		
Gaspé, Que., Can.	+48 50.0	+ 64 30.0	19 25 07.4	291	249		
Georgetown, P.E.I., Can.	+46 12.0	+ 62 32.0	19 31 29.2	293	246	20 36 28.7	102
Glasgow, Scotland	+55 53.0	+ 4 15.0	19 29 50.8	257	224		
Godthåb, Greenland	+64 10.0	+ 51 40.0	19 08 22.1	272	246		
Goose Bay, Nfld., Can.	+53 15.0	+ 60 20.0	19 20 42.2	285	247		
Grand Falls, Nfld., Can.	+48 57.0	+ 55 40.0	19 31 25.7	286	241		
Grand Rapids, Mich., U.S.A.	+42 57.0	+ 86 40.0	19 14 00.1	314	279		
Great Whale River, Que., Can.	+55 20.0	+ 77 50.0	19 01 27.8	292	268	20 11 19.6	167
Guysborough, N.S., Can.	+45 23.0	+ 61 30.0	19 33 46.1	293	245	20 38 20.1	105
Haines Junction, Yukon, Can.	+60 45.0	+137 21.0	17 53 43.4	295	324		
Halifax, N.S., Can.	+44 38.0	+ 63 35.0	19 33 35.2	295	246		
Hamilton, Ont., Can.	+43 15.0	+ 79 50.0	19 21 10.3	308	266		
Hammerfest, Norway	+70 40.0	- 23 44.0	19 01 36.2	250	235		
Hartford, Conn., U.S.A.	+41 45.0	+ 72 42.0	19 31 30.8	305	255		

LOCAL CIRCUMSTANCES

Maximum Eclipse Universal Time	Magnitude	Sun's Alt.	Sun's Az.	Third Contact Universal Time	P	V	Fourth Contact Universal Time	P	V	Duration	Width of Path
h m s		°	°	h m s	°	°	h m s	°	°	m s	mi
18 56 36.6	0.914	38	123				20 04 49.6	97	113		
20 36 10.9	0.659	48	258				21 40 39.6	94	38		
20 38 49.9	0.869	39	265				21 41 54.6	105	53		
20 39 14.5	1.035	32	270	20 40 18.3	283	234	21 39 38.5	112	63	2 07.7	112
19 24 39.9	1.038	44	173	19 25 55.7	272	275	20 33 28.1	106	100	2 31.6	109
18 53 33.7	0.797	41	122				20 03 04.7	91	110		
20 33 56.1	0.927	30	270				21 33 12.7	116	72		
20 32 32.3	1.036	36	264	20 33 26.5	255	209	21 34 41.4	111	65	1 48.5	113
20 39 58.1	0.985	33	270				21 40 49.3	110	61		
19 02 29.0	0.885	42	134				20 12 12.7	97	108		
19 21 57.7	0.688	55	162				20 34 49.6	89	82		
20 05 04.0	0.361	68	220				21 07 51.1	74	25		
20 20 48.8	0.552	58	242				21 27 07.3	87	34		
20 31 33.8	0.707	49	255				21 37 10.4	96	43		
18 42 03.8	0.795	34	105				19 48 55.6	89	117		
20 13 18.8	0.686	56	235				21 22 13.0	94	49		
19 41 32.2	0.706	31	230				20 39 21.0	124	111		
18 30 08.0	0.705	29	92				19 33 56.4	82	120		
19 33 13.1	0.662	59	177				20 45 57.5	89	71		
18 44 36.7	0.988	24	90				19 46 17.1	102	127		
20 38 02.3	0.929	37	266				21 40 25.7	107	57		
20 34 48.0	0.741	46	258				21 39 42.5	98	45		
19 48 49.1	0.972	48	211				20 58 02.2	107	82		
18 56 35.8	0.913	38	123				20 04 50.8	97	113		
19 48 26.8	0.775	56	203				21 00 17.7	97	69		
20 29 43.6	0.713	49	253				21 35 43.1	96	44		
20 12 48.4	0.905	38	250				21 15 21.7	117	82		
20 13 50.2	0.966	45	243				21 20 17.9	109	70		
20 32 56.2	0.970	37	263				21 35 45.4	109	62		
19 08 36.1	0.972	41	143				20 17 18.3	102	108		
19 23 52.5	0.840	51	168				20 35 56.8	97	90		
18 34 00.8	0.716	32	97				19 39 08.9	83	118		
19 28 25.4	0.859	51	176				20 40 18.2	99	88		
19 20 53.5	0.699	55	160				20 33 44.7	89	83		
20 02 37.0	0.923	49	228				21 11 23.7	106	72		
19 31 02.5	0.839	52	179				20 43 10.1	98	84		
19 26 51.8	0.777	54	171				20 39 33.9	94	84		
20 13 53.1	0.754	53	237				21 22 42.6	98	54		
19 00 10.9	0.953	38	128				20 08 10.2	100	113		
20 36 18.4	0.971	36	266				21 38 20.5	110	61		
20 34 44.0	0.894	28	273				21 32 48.5	118	74		
20 31 54.7	0.997	35	265				21 33 28.6	113	68		
20 37 32.9	1.035	32	269	20 38 37.1	303	254	21 38 13.7	112	64	2 08.4	112
20 14 33.8	0.509	4	305				.. ..	...	...		
20 07 31.9	0.717	29	261				21 03 58.3	126	97		
20 25 18.8	0.895	33	264				21 25 28.4	118	77		
20 34 32.0	0.905	28	272				21 32 59.8	117	73		
20 26 48.0	0.672	52	249				21 33 16.2	94	42		
20 12 02.3	1.038	44	242	20 12 45.1	235	202	21 18 02.0	110	73	1 25.5	113
20 39 23.8	1.035	31	270	20 40 27.5	300	251	21 39 38.4	112	63	2 07.4	112
19 01 55.9	0.796	45	134				20 12 48.8	92	104		
20 40 01.8	0.985	33	270				21 40 52.6	110	61		
20 32 51.4	0.766	46	257				21 38 06.6	99	47		
19 44 29.9	0.445	7	322				20 26 49.6	138	128		
20 40 53.8	0.829	39	265				21 43 54.7	103	49		

LOCAL CIRCUMSTANCES

Geographic Locations	Latitude	Longitude	First Contact Universal Time	P	V	Second Contact Universal Time	P	V
	° ′	° ′	h m s	°	°	h m s	°	
Hauterive, Que., Can.	+49 11.0	+ 68 16.0	19 21 13.7	293	253	20 28 46.2	165	12
Hay River, N.W.T., Can.	+60 51.0	+115 42.0	18 14 00.9	296	313			
Helena, Mont., U.S.A.	+46 35.0	+112 00.0	18 30 36.7	321	344			
Herschel, Yukon, Can.	+69 34.0	+139 00.0	18 01 31.5	283	301	19 05 55.6	92	10
Holsteinsborg, Greenland	+66 55.0	+ 53 30.0	19 03 00.4	271	249			
Holy Cross, Alaska, U.S.A.	+62 10.0	+159 53.0	17 42 36.2	288	318			
Homer, Alaska, U.S.A.	+59 40.0	+151 37.0	17 43 11.6	293	326			
Hooper Bay, Alaska, U.S.A.	+61 29.0	+166 10.0	17 39 55.5	287	318			
Houlton, Me., U.S.A.	+46 09.0	+ 67 50.0	19 27 12.7	296	251			
Il'pyrski, U.S.S.R.	+59 58.0	-164 12.0	17 39 00.7	278	306	18 33 07.6	84	11
Indianapolis, Ind., U.S.A.	+39 45.0	+ 86 10.0	19 22 10.9	318	275			
Inkerman, N.B., Can.	+47 40.0	+ 64 51.0	19 26 56.8	293	249	20 32 48.5	113	6
Inuvik, N.W.T., Can.	+68 16.0	+133 40.0	18 03 02.6	285	303			
Inverness, N.S., Can.	+46 14.0	+ 61 19.0	19 32 20.8	292	245	20 37 38.3	37	34
Inverness, Scotland	+57 27.0	+ 4 15.0	19 27 44.6	256	225			
Ithaca, N.Y., U.S.A.	+42 26.0	+ 76 30.0	19 26 24.1	307	260			
Juneau, Alaska, U.S.A.	+58 20.0	+134 20.0	17 54 48.3	299	330			
Kaktovik, Alaska, U.S.A.	+70 08.0	+143 35.0	18 00 04.3	281	301			
Kanaaupscow, Que., Can.	+54 00.0	+ 76 40.0	19 04 44.8	293	266			
Kansas City, Mo., U.S.A.	+39 02.0	+ 94 33.0	19 14 13.9	326	296			
Kapuskasing, Ont., Can.	+49 25.0	+ 82 26.0	19 06 05.2	302	274			
Kensington, P.E.I., Can.	+46 26.0	+ 63 39.0	19 30 11.1	293	247	20 35 39.2	131	8
Ketchikan, Alaska, U.S.A.	+55 25.0	+131 40.0	17 56 34.2	304	337			
Kingston, Ont., Can.	+44 14.0	+ 76 30.0	19 22 39.4	305	261			
Kirkland Lake, Ont., Can.	+48 10.0	+ 80 02.0	19 11 07.3	302	269			
Kitimat, B.C., Can.	+54 05.0	+128 38.0	17 59 59.3	307	340			
Kivalina, Alaska, U.S.A.	+67 45.0	+164 40.0	17 49 35.2	280	305	18 50 06.6	89	11
Kodiak, Alaska, U.S.A.	+57 49.0	+152 30.0	17 40 49.8	296	331			
Kolpakovskiy, U.S.S.R.	+54 50.0	-155 35.0	17 36 07.2	279	308			
Kotzebue, Alaska, U.S.A.	+66 51.0	+162 40.0	17 48 35.7	282	307			
Kwethluk, Alaska, U.S.A.	+60 46.0	+161 34.0	17 40 13.2	289	321			
Lansing, Mich., U.S.A.	+42 44.0	+ 85 34.0	19 15 48.0	313	276			
Les Mechins, Que., Can.	+48 59.0	+ 67 00.0	19 22 43.1	293	252	20 29 22.0	124	8
Lewiston, Me., U.S.A.	+44 06.0	+ 70 14.0	19 29 00.9	300	253			
Lincoln, Nebr., U.S.A.	+40 49.0	+ 96 41.0	19 06 34.6	324	305			
Lloydminster, Alta./Sask., Can.	+53 18.0	+110 00.0	18 24 25.0	307	324			
London, Ont., Can.	+42 58.0	+ 81 15.0	19 20 13.6	310	268			
Longyearbyen, Spitsbergen	+78 12.0	- 15 40.0	18 51 48.7	254	243			
Madison, Wis., U.S.A.	+43 04.0	+ 89 22.0	19 10 25.5	315	285			
Magadan, U.S.S.R.	+59 38.0	-150 50.0	17 43 37.7	273	298			
Maguse River, N.W.T., Can.	+61 20.0	+ 94 25.0	18 36 37.3	291	288			
Manchester, N.H., U.S.A.	+42 59.0	+ 71 28.0	19 30 07.0	302	254			
Manicouagan, Que., Can.	+50 39.0	68 50.0	19 18 05.8	292	255	20 25 15.8	107	6
Marquette, Mich., U.S.A.	+46 33.0	+ 87 23.0	19 05 29.5	309	282			
Matane, Que., Can.	+48 50.0	+ 67 31.0	19 22 32.0	293	252	20 29 37.9	152	10
Matapedia, Que., Can.	+47 59.0	+ 66 58.0	19 24 34.0	294	251			
Mayo, Yukon, Can.	+63 34.0	+135 52.0	17 57 07.1	291	316			
McGrath, Alaska, U.S.A.	+62 58.0	+155 40.0	17 45 12.7	288	317			
McMurray, Alta., Can.	+56 45.0	+111 27.0	18 20 00.3	302	318			
Meadow Lake, Sask. Can.	+54 09.0	+108 26.0	18 25 43.7	306	320			
Medicine Hat, Alta., Can.	+50 03.0	+110 41.0	18 27 07.7	313	333			
Milwaukee, Wis., U.S.A.	+43 03.0	+ 87 56.0	19 12 14.2	314	282			
Minneapolis, Minn., U.S.A.	+45 00.0	+ 93 15.0	19 01 06.4	315	296			
Moncton, N.B., Can.	+46 04.0	+ 64 50.0	19 29 54.7	294	248			
Montague, P.E.I., Can.	+46 10.0	+ 62 39.0	19 31 27.5	293	246	20 36 28.9	108	5

LOCAL CIRCUMSTANCES

Maximum Eclipse					Third Contact			Fourth Contact			Dura-	Width
Universal Time	Magni- tude	Sun's Alt.	Sun's Az.		Universal Time	P	V	Universal Time	P	V	tion	of Path
h m s		°	°		h m s	°	°	h m s	°	°	m s	mi
20 29 28.9	1.036	37	261		20 30 11.6	240	195	21 32 21.5	111	66	1 25.4	113
19 26 12.5	0.843	51	172					20 38 17.2	98	88		
19 41 51.3	0.479	65	185					20 51 18.3	79	51		
19 07 07.0	1.037	38	139		19 08 18.5	295	309	20 14 21.5	104	112	2 22.9	108
20 02 05.8	0.708	30	256					20 58 45.5	126	101		
18 45 29.3	0.877	33	106					19 51 58.0	93	118		
18 47 49.4	0.788	38	113					19 56 14.0	89	113		
18 41 19.2	0.885	30	99					19 46 25.6	93	121		
20 35 22.4	0.961	37	265					21 37 49.1	109	61		
18 33 57.4	1.031	15	71		18 34 47.3	292	323	19 31 57.5	99	131	1 39.7	98
20 33 26.9	0.612	51	255					21 38 08.8	91	35		
20 33 55.8	1.036	35	266		20 35 03.1	292	245	21 35 32.0	112	65	2 14.6	113
19 09 56.9	0.992	41	146					20 18 19.0	103	108		
20 37 54.5	1.035	32	270		20 38 10.7	8	319	21 38 10.6	113	65	0 32.4	112
20 12 30.4	0.501	5	304					20 55 52.1	136	111		
20 37 02.9	0.793	43	261					21 41 14.6	101	48		
19 03 44.3	0.730	48	137					20 15 18.6	89	99		
19 04 45.7	0.999	37	134					20 11 15.5	105	114		
20 15 17.5	0.992	43	246					21 21 00.4	110	71		
20 24 13.6	0.480	59	246					21 28 22.1	83	27		
20 18 59.1	0.851	48	245					21 26 18.1	103	59		
20 36 42.1	1.035	33	268		20 37 44.9	274	226	21 37 47.0	112	64	2 05.7	112
19 05 46.1	0.649	51	138					20 17 31.6	84	93		
20 33 38.5	0.826	43	259					21 38 20.5	102	51		
20 23 24.6	0.855	46	250					21 29 53.3	103	57		
19 09 42.2	0.615	54	143					20 21 34.9	83	88		
18 51 10.5	1.035	30	106		18 52 14.4	293	316	19 55 30.8	102	122	2 07.8	105
18 44 52.3	0.742	38	110					19 52 59.5	86	113		
18 28 34.9	0.988	8	62					19 24 00.7	96	133		
18 50 42.0	0.995	31	108					19 55 40.9	100	121		
18 42 35.5	0.849	33	103					19 48 46.9	92	119		
20 28 23.5	0.682	51	251					21 34 35.3	95	42		
20 30 29.6	1.036	36	262		20 31 37.1	280	235	21 32 55.6	112	66	2 15.1	113
20 37 56.4	0.900	38	265					21 40 48.7	106	55		
20 17 42.2	0.493	61	238					21 23 19.1	83	31		
19 38 37.6	0.677	59	186					20 51 13.1	90	68		
20 32 09.5	0.742	47	256					21 37 37.7	98	46		
19 38 28.9	0.494	14	312					20 24 37.3	135	127		
20 23 29.1	0.640	54	246					21 30 23.3	92	41		
18 35 58.9	0.928	9	61					19 30 51.2	103	134		
19 48 26.9	0.974	48	210					20 57 38.9	107	83		
20 39 19.6	0.866	39	265					21 42 19.3	104	52		
20 26 26.2	1.037	38	259		20 27 36.5	297	255	21 29 34.4	112	68	2 20.7	113
20 19 17.8	0.738	52	243					21 27 14.9	97	50		
20 30 31.1	1.036	37	262		20 31 24.4	252	207	21 33 07.1	111	66	1 46.5	113
20 32 22.6	0.999	36	263					21 34 43.6	111	65		
19 05 15.5	0.872	44	139					20 15 34.6	96	105		
18 49 05.0	0.883	35	112					19 56 20.7	94	117		
19 33 45.6	0.758	55	181					20 46 29.5	94	77		
19 40 08.2	0.710	58	189					20 52 42.8	92	69		
19 40 38.4	0.585	62	186					20 52 20.8	85	60		
20 25 11.6	0.658	53	248					21 31 53.9	93	41		
20 15 01.6	0.634	57	236					21 23 21.3	91	44		
20 36 54.0	0.993	34	267					21 38 20.5	111	63		
20 37 34.1	1.035	33	269		20 38 39.2	297	248	21 38 17.0	112	64	2 10.3	112

LOCAL CIRCUMSTANCES

Geographic Locations	Latitude	Longitude	First Contact Universal Time	P	V	Second Contact Universal Time	P	V
	° ′	° ′	h m s	°	°	h m s	°	
Mont Joli, Que., Can.	+48 36.0	+ 68 12.0	19 22 20.6	294	253			
Montpelier, Vt., U.S.A.	+44 16.0	+ 73 34.0	19 25 32.4	302	257			
Montreal, Que., Can.	+45 30.0	+ 73 36.0	19 23 03.8	301	258			
Moose Jaw, Sask., Can.	+50 23.0	+105 35.0	18 34 00.5	311	322			
Moosonee, Ont., Can.	+51 18.0	+ 80 40.0	19 04 50.2	298	271			
Mountain Village, Alaska, U.S.A.	+62 09.0	+163 49.0	17 41 24.6	287	317			
Mulgrave, N.S., Can.	+45 36.0	+ 61 25.0	19 33 25.9	292	245	20 38 02.2	91	4
Murdochville, Que., Can.	+48 57.0	+ 65 30.0	19 24 04.5	292	250	20 30 24.0	71	2
Murray River, P.E.I., Can.	+46 00.0	+ 62 38.0	19 31 46.7	293	246	20 36 47.6	115	6
Nain, Nfld., Can.	+56 30.0	+ 61 45.0	19 14 11.0	282	250			
Nakina, Ont., Can.	+50 11.0	+ 86 43.0	18 59 36.8	303	282			
New Carlisle, Que., Can.	+48 00.0	+ 65 22.0	19 25 54.5	293	250	20 31 57.5	115	6
New Glasgow, N.S., Can.	+45 36.0	+ 62 38.0	19 32 31.0	293	246	20 37 36.7	135	8
New Orleans, La., U.S.A.	+30 00.0	+ 90 03.0	19 47 57.4	339	272			
New Richmond, Que., Can.	+48 12.0	+ 65 52.0	19 25 07.3	293	250	20 31 22.3	123	7
New York, N.Y., U.S.A.	+40 40.0	+ 73 50.0	19 32 45.3	307	256			
Nipigon, Ont., Can.	+49 02.0	+ 88 26.0	18 59 29.4	306	285			
Nitchequon, Que., Can.	+53 12.0	+ 70 54.0	19 11 47.2	291	258			
Noatak, Alaska, U.S.A.	+67 33.0	+163 10.0	17 49 34.8	281	305	18 50 26.4	118	14
Nome, Alaska, U.S.A.	+64 30.0	+165 30.0	17 44 23.1	284	311			
Noorvik, Alaska, U.S.A.	+66 50.0	+161 14.0	17 48 55.3	282	307			
Norman Wells, N.W.T., Can.	+65 19.0	+126 46.0	18 05 19.6	289	308			
Northampton, Mass., U.S.A.	+42 19.0	+ 72 38.0	19 30 23.9	304	255			
North Battleford, Sask., Can.	+52 47.0	+108 19.0	18 27 13.4	308	323			
North Bay, Ont., Can.	+46 20.0	+ 79 28.0	19 15 15.8	304	267			
North Point, P.E.I., Can.	+47 03.0	+ 64 00.0	19 28 46.3	293	248	20 34 19.0	113	6
North Rustico, P.E.I., Can.	+46 20.0	+ 63 20.0	19 30 37.2	293	247	20 35 55.9	124	7
Okhotsk, U.S.S.R.	+59 20.0	-143 15.0	17 47 08.5	271	293			
Oktyabr'skiy, Kamchatka, U.S.S.R.	+52 43.0	-156 14.0	17 33 40.9	281	312			
Orono, Me., U.S.A.	+44 53.0	+ 68 43.0	19 28 50.9	298	252			
Oslo, Norway	+59 56.0	- 10 45.0	19 20 09.7	252	226			
Ossora, U.S.S.R.	+59 16.0	-163 08.0	17 38 25.4	278	306	18 32 13.1	104	13
Ottawa, Ont., Can.	+45 25.0	+ 75 43.0	19 21 05.3	303	261			
Oxford, N.S., Can.	+45 43.0	+ 63 52.0	19 31 20.4	294	247			
Palana, U.S.S.R.	+59 05.0	-159 59.0	17 39 13.6	277	305			
Palmer, Alaska, U.S.A.	+61 35.0	+149 10.0	17 46 36.8	291	322			
Peace River, Alta., Can.	+56 15.0	+117 18.0	18 13 04.4	303	326			
Percé, Que., Can.	+48 32.0	+ 64 14.0	19 25 53.0	291	249			
Peterborough, Ont., Can.	+44 19.0	+ 78 20.0	19 20 33.3	306	264			
Petropavlovsk, Kamchatka, U.S.S.R.	+52 45.0	-158 55.0	17 32 33.2	282	314			
Philadelphia, Pa., U.S.A.	+40 00.0	+ 75 10.0	19 32 57.7	309	257			
Pictou, N.S., Can.	+45 41.0	+ 62 42.0	19 32 18.7	293	246	20 37 25.3	134	8
Pittsburgh, Pa., U.S.A.	+40 26.0	+ 80 00.0	19 27 13.1	312	264			
Pittsfield, Mass., U.S.A.	+42 27.0	+ 73 15.0	19 29 32.7	304	256			
Plattsburg, N.Y., U.S.A.	+44 42.0	+ 73 29.0	19 24 45.5	302	258			
Point Hope, Alaska, U.S.A.	+68 20.0	+166 50.0	17 50 08.6	279	303			
Port Alfred, Que., Can.	+48 20.0	+ 70 54.0	19 20 19.5	296	256			
Port Arthur, Ont., Can.	+48 27.0	+ 89 12.0	18 59 34.4	307	287			
Port aux Basques, Nfld., Can.	+47 35.0	+ 59 10.0	19 31 28.3	289	243			
Port-Cartier-Quest, Que., Can.	+50 01.0	+ 66 53.0	19 20 58.2	292	252	20 27 48.2	67	2
Port Harrison, Que., Can.	+58 25.0	+ 78 15.0	18 56 36.1	289	269			
Port Hawkesbury, N.S., Can.	+45 36.0	+ 61 22.0	19 33 28.1	292	245	20 38 04.0	89	3
Port Hood, N.S., Can.	+46 00.0	+ 61 32.0	19 32 36.7	292	245	20 37 26.1	73	2
Port Huron, Mich., U.S.A.	+42 59.0	+ 82 28.0	19 18 49.7	311	270			
Portland, Me., U.S.A.	+43 41.0	+ 70 18.0	19 29 46.7	301	253			

LOCAL CIRCUMSTANCES

Maximum Eclipse Universal Time	Magnitude	Sun's Alt.	Sun's Az.	Third Contact Universal Time	P	V.	Fourth Contact Universal Time	P	V	Duration	Width of Path
h m s		°	°	h m s	°	°	h m s	°	°	m s	mi
20 30 36.5	0.995	37	261				21 33 25.4	111	65		
20 35 37.3	0.862	41	262				21 39 30.8	104	53		
20 33 16.4	0.883	41	260				21 37 25.6	105	56		
19 48 33.2	0.635	61	200				21 00 13.7	89	58		
20 17 05.3	0.905	46	244				21 24 03.1	106	64		
18 43 23.7	0.891	31	102				19 49 00.0	94	120		
20 39 01.9	1.035	31	270	20 40 01.6	314	265	21 39 16.1	112	64	1 59.4	112
20 31 15.4	1.036	35	264	20 32 06.8	333	288	21 33 10.4	112	67	1 42.8	113
20 37 52.8	1.035	32	269	20 38 58.0	290	241	21 38 34.3	112	64	2 10.4	112
20 18 45.8	0.869	34	259				21 19 16.1	119	82		
20 13 26.8	0.819	51	238				21 21 59.0	101	59		
20 33 05.2	1.036	35	265	20 34 12.8	289	243	21 34 53.5	112	66	2 15.3	113
20 38 36.7	1.035	32	269	20 39 36.7	269	220	21 39 15.7	111	63	2 00.0	112
20 47 47.9	0.337	53	268				21 42 11.0	74	5		
20 32 29.3	1.036	35	264	20 33 36.4	282	236	21 34 28.9	112	66	2 14.1	113
20 42 12.9	0.795	40	266				21 45 11.0	101	46		
20 13 39.7	0.777	52	237				21 22 26.2	99	56		
20 20 31.0	0.999	39	253				21 24 21.8	112	72		
18 51 29.6	1.035	31	108	18 52 32.8	264	287	19 56 10.5	101	121	2 06.4	105
18 46 03.4	0.952	30	103				19 50 59.5	97	122		
18 51 19.1	0.990	32	109				19 56 34.7	100	120		
19 14 26.3	0.926	45	154				20 24 41.6	100	102		
20 39 52.6	0.840	39	265				21 43 01.8	103	50		
19 41 39.4	0.675	59	190				20 54 04.6	91	66		
20 27 19.6	0.828	46	253				21 33 19.0	102	54		
20 35 25.5	1.035	34	267	20 36 32.0	292	244	21 36 41.1	112	65	2 13.0	113
20 37 00.5	1.035	33	268	20 38 05.0	281	232	21 37 58.3	112	64	2 09.1	112
18 38 04.1	0.881	6	55				19 31 12.9	106	136		
18 25 47.9	0.946	7	62				19 20 59.6	93	132		
20 37 17.3	0.930	37	265				21 39 49.9	108	58		
20 02 11.5	0.454	1	315				.. ..	...	...		
18 33 03.7	1.031	14	70	18 33 54.2	272	304	19 30 45.7	98	131	1 41.1	97
20 31 58.5	0.857	43	258				21 36 43.8	104	54		
20 37 56.2	0.998	33	268				21 39 00.8	111	63		
18 33 13.9	0.998	12	68				19 30 10.6	99	132		
18 51 59.6	0.832	39	119				20 00 45.3	92	112		
19 25 59.1	0.714	55	168				20 38 55.0	91	80		
20 32 34.9	0.998	34	265				21 34 02.1	113	67		
20 32 04.1	0.805	45	257				21 37 16.5	101	50		
18 25 07.3	0.925	8	64				19 20 53.7	92	131		
20 42 35.0	0.765	41	265				21 45 37.7	99	44		
20 38 26.2	1.035	32	269	20 39 27.1	271	222	21 39 07.0	111	63	2 01.8	112
20 38 04.6	0.709	46	261				21 42 16.9	96	41		
20 39 14.6	0.834	40	264				21 42 35.9	103	50		
20 34 51.5	0.871	41	261				21 38 49.1	105	54		
18 51 13.7	0.994	29	105				19 54 59.0	103	123		
20 29 37.2	0.961	39	259				21 33 18.7	109	63		
20 13 50.5	0.756	53	237				21 22 40.1	98	54		
20 36 07.0	0.958	30	270				21 35 44.8	115	69		
20 28 37.1	1.036	37	261	20 29 26.1	337	293	21 31 03.9	112	68	1 37.9	113
20 06 19.0	0.988	43	238				21 12 02.2	112	79		
20 39 02.8	1.035	31	270	20 40 01.6	316	267	21 39 16.1	112	64	1 57.6	112
20 38 15.8	1.035	32	270	20 39 05.5	332	283	21 38 34.9	112	65	1 39.4	112
20 31 00.5	0.727	48	254				21 36 44.3	97	45		
20 38 40.9	0.892	38	265				21 41 29.3	106	54		

LOCAL CIRCUMSTANCES

Geographic Locations	Latitude	Longitude	First Contact Universal Time	P	V	Second Contact Universal Time	P
	° ′	° ′	h m s	°	°	h m s	°
Portland, Ore., U.S.A.	+45 32.0	+122 40.0	18 15 43.7	325	4		
Port Radium, N.W.T., Can.	+66 04.0	+118 00.0	18 12 48.7	288	302		
Portsmouth, N.H., U.S.A.	+43 03.0	+ 70 47.0	19 30 36.4	302	253		
Poste-de-la-Baleine, Que., Can.	+55 17.0	+ 77 46.0	19 01 36.5	292	268	20 11 28.9	168
Presque Isle, Me., U.S.A.	+46 42.0	+ 68 01.0	19 26 01.0	296	252		
Prince Albert, Sask., Can.	+53 13.0	+105 45.0	18 30 14.7	306	317		
Prince George, B.C., Can.	+53 55.0	+122 49.0	18 07 07.3	308	337		
Prince Rupert, B.C., Can.	+54 09.0	+130 20.0	17 58 00.5	307	341		
Providence, R.I., U.S.A.	+41 50.0	+ 71 25.0	19 32 30.5	304	253		
Provideniya, U.S.S.R.	+64 30.0	+173 11.0	17 43 15.8	281	309		
Quebec, Que., Can.	+46 50.0	+ 71 15.0	19 22 47.2	298	256		
Rankin Inlet, N.W.T., Can.	+62 52.0	+ 92 00.0	18 37 54.8	288	284	19 47 18.1	103
Regina, Sask., Can.	+50 30.0	+104 38.0	18 35 11.6	311	320		
Reykjavik, Iceland	+64 09.0	+ 21 58.0	19 18 06.6	260	232		
Richibucto, N.B., Can.	+46 42.0	+ 64 54.0	19 28 41.0	294	249	20 35 07.6	172
Rimouski, Que., Can.	+48 27.0	+ 68 32.0	19 22 19.0	294	253		
Rivière-au-Renard, Que., Can.	+48 59.0	+ 64 26.0	19 24 54.5	291	249		
Rivière du Loup, Que., Can.	+47 49.0	+ 69 32.0	19 22 33.8	296	254		
Roberval, Que., Can.	+48 31.0	+ 72 16.0	19 18 40.0	297	258		
Rochester, N.Y., U.S.A.	+43 12.0	+ 77 37.0	19 23 38.2	307	262		
Rouyn, Que., Can.	+48 15.0	+ 79 00.0	19 12 07.2	301	267		
Rutland, Vt., U.S.A.	+43 37.0	+ 72 59.0	19 27 24.8	303	256		
Sable Island, N.S., Can.	+43 56.0	+ 60 01.0	19 37 29.9	293	243	20 41 26.2	123
Ste. Anne-des-Monts, Que. Can.	+49 07.0	+ 66 29.0	19 22 55.8	292	251	20 29 22.3	100
Ste. Félicité, Que., Can.	+48 54.0	+ 67 21.0	19 22 33.6	293	252	20 29 28.1	141
St. Hyacinthe, Que., Can.	+45 38.0	+ 72 57.0	19 23 26.7	300	257		
Saint John, N.B., Can.	+45 16.0	+ 66 03.0	19 30 24.5	296	249		
St.John's, Nfld., Can.	+47 34.0	+ 52 41.0	19 35 39.1	285	238		
St. Stephen, N.B., Can.	+45 12.0	+ 67 18.0	19 29 28.6	297	250		
Salt Lake City, Utah, U.S.A.	+40 45.0	+111 55.0	18 45 01.0	334	0		
San Francisco, Calif., U.S.A.	+37 45.0	+122 27.0	18 39 58.5	347	35		
Saskatoon, Sask., Can.	+52 10.0	+106 40.0	18 30 10.7	309	321		
Sault Ste. Marie, Ont., Can.	+46 32.0	+ 84 20.0	19 09 15.3	307	276		
Sayabec, Que., Can.	+48 35.0	+ 67 41.0	19 22 50.3	294	252	20 30 32.7	184
Schefferville, Que., Can.	+54 50.0	+ 67 00.0	19 12 37.5	287	255		
Seattle, Wash., U.S.A.	+47 35.0	+122 20.0	18 13 04.3	320	356		
Seldovia, Alaska, U.S.A.	+59 29.0	+151 45.0	17 42 55.7	294	327		
Sept Iles, Que., Can.	+50 13.0	+ 66 16.0	19 21 09.3	291	252		
Seward, Alaska, U.S.A.	+60 05.0	+149 34.0	17 44 46.5	293	326		
Shawinigan, Que., Can.	+46 33.0	+ 72 45.0	19 21 52.4	299	258		
Sheet Harbour, N.S., Can.	+44 56.0	+ 62 31.0	19 33 50.5	294	245	20 39 23.0	176
Shippegan, N.B., Can.	+47 45.0	+ 64 44.0	19 26 53.5	293	249	20 32 42.8	105
Shishmaref, Alaska, U.S.A.	+66 15.0	+166 11.0	17 46 55.3	282	307		
Sioux Lookout, Ont., Can.	+50 07.0	+ 91 54.0	18 53 10.3	306	293		
Sitka, Alaska, U.S.A.	+57 05.0	+135 20.0	17 53 19.3	301	333		
Skagway, Alaska, U.S.A.	+59 23.0	+135 20.0	17 54 28.4	297	327		
Souris, P.E.I., Can.	+46 22.0	+ 62 16.0	19 31 23.2	292	246	20 36 23.6	83
Springfield, Mass., U.S.A.	+42 07.0	+ 72 35.0	19 30 51.5	304	255		
Steen River, Alta., Can.	+59 37.0	+117 17.0	18 12 23.2	298	317		
Stellarton, N.S., Can.	+45 34.0	+ 62 40.0	19 32 33.2	293	246	20 37 41.1	139
Sudbury, Ont., Can.	+46 30.0	+ 81 01.0	19 13 11.6	305	270		
Summerside, P.E.I., Can.	+46 26.0	+ 63 50.0	19 30 02.3	293	247	20 35 37.8	138
Swift Current, Sask., Can.	+50 17.0	+107 49.0	18 30 57.3	312	327		
Sydney, N.S., Can.	+46 10.0	+ 60 10.0	19 33 18.5	291	244		
Syracuse, N.Y., U.S.A.	+43 03.0	+ 76 10.0	19 25 26.5	306	260		

LOCAL CIRCUMSTANCES

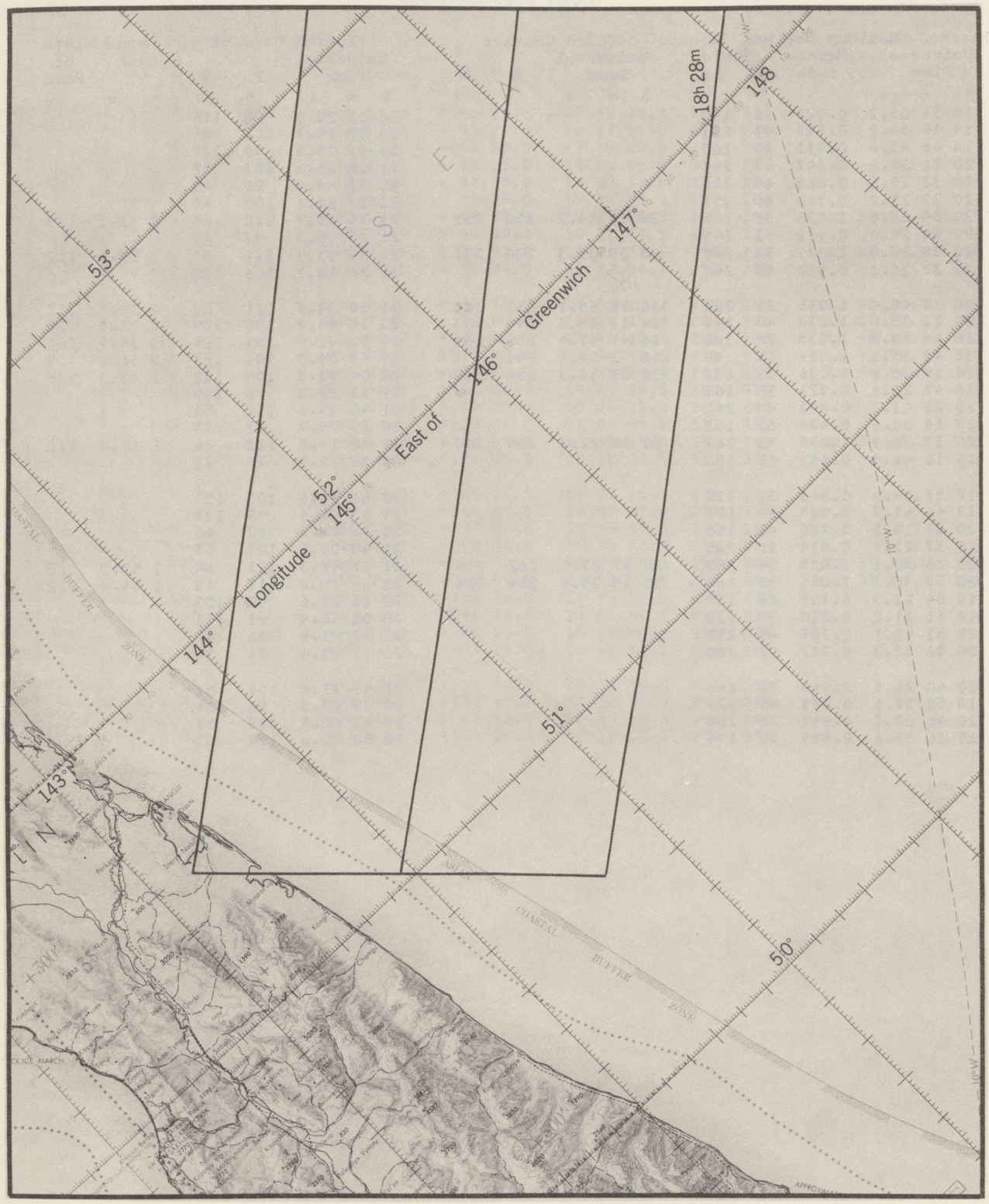
Maximum Eclipse Universal Time	Magnitude	Sun's Alt.	Sun's Az.	Third Contact Universal Time	P	V	Fourth Contact Universal Time	P	V	Duration	Width of Path
h m s		°	°	h m s	°	°	h m s	°	°	m s	mi
19 21 04.4	0.378	64	150				20 27 20.0	70	65		
19 22 29.5	0.964	46	168				20 32 23.7	104	98		
20 39 35.6	0.875	38	265				21 42 24.4	105	53		
20 12 10.6	1.038	44	243	20 12 52.3	234	201	21 18 09.4	110	73	1 23.4	113
20 34 15.3	0.968	37	264				21 36 49.6	109	62		
19 44 58.0	0.706	58	196				20 57 14.3	93	66		
19 18 31.0	0.626	56	155				20 30 59.3	85	81		
19 07 13.4	0.614	53	140				20 18 52.7	83	90		
20 41 30.2	0.846	38	266				21 44 11.6	103	50		
18 43 17.3	0.983	27	95				19 46 32.2	99	125		
20 32 13.9	0.933	39	261				21 35 52.1	108	60		
19 48 36.9	1.039	46	213	19 49 55.7	295	279	20 56 46.1	109	86	2 37.6	112
19 49 52.5	0.646	60	202				21 01 31.2	90	58		
20 07 52.5	0.551	16	288				20 55 53.2	134	109		
20 35 42.0	1.036	34	266	20 36 16.4	233	185	21 37 14.0	111	64	1 08.8	113
20 30 42.9	0.989	37	261				21 33 37.9	110	65		
20 31 39.7	0.994	35	264				21 33 12.7	113	68		
20 31 22.0	0.968	38	261				21 34 33.5	109	63		
20 28 26.9	0.949	40	258				21 32 36.1	108	62		
20 34 45.1	0.793	44	259				21 39 27.4	101	49		
20 24 06.8	0.869	45	251				21 30 18.5	104	58		
20 37 13.1	0.858	40	263				21 40 47.8	104	53		
20 42 28.0	1.034	30	273	20 43 29.8	282	231	21 42 02.4	112	62	2 03.6	111
20 30 29.5	1.036	36	262	20 31 36.8	304	259	21 32 45.5	112	67	2 14.5	113
20 30 28.6	1.036	37	262	20 31 29.2	263	218	21 33 01.5	111	66	2 01.1	113
20 33 26.6	0.893	40	261				21 37 25.4	106	56		
20 37 51.2	0.967	35	267				21 39 35.9	109	60		
20 37 33.2	0.893	26	275				21 34 54.5	118	73		
20 37 24.1	0.952	36	266				21 39 32.5	109	59		
19 48 59.2	0.313	71	191				20 50 50.4	69	31		
19 25 50.5	0.137	71	142				20 12 01.0	50	52		
19 44 47.7	0.672	59	195				20 56 59.7	91	63		
20 22 30.5	0.774	50	247				21 29 46.7	99	52		
20 30 54.2	1.036	37	262	20 31 15.7	220	175	21 33 32.5	111	65	0 43.0	113
20 19 34.6	0.938	37	255				21 22 01.0	115	77		
19 20 58.1	0.442	62	152				20 29 46.7	74	68		
18 47 29.8	0.784	38	113				19 55 52.8	89	113		
20 28 32.5	0.995	36	261				21 30 46.9	113	69		
18 49 58.0	0.794	39	116				19 58 47.5	90	112		
20 31 50.6	0.911	40	260				21 35 54.8	107	58		
20 39 52.2	1.035	32	270	20 40 21.4	229	179	21 40 24.1	111	62	0 58.4	112
20 33 49.5	1.036	35	266	20 34 56.2	300	253	21 35 23.7	112	66	2 13.4	113
18 48 21.9	0.993	30	103				19 52 48.2	100	122		
20 07 49.6	0.762	54	229				21 17 32.6	98	57		
19 01 50.2	0.695	48	134				20 13 14.7	86	99		
19 03 11.8	0.759	47	136				20 14 33.1	90	101		
20 37 20.4	1.035	32	269	20 38 17.2	322	273	21 37 56.6	112	65	1 53.6	112
20 40 17.0	0.837	39	265				21 43 22.0	103	50		
19 24 45.5	0.804	52	169				20 37 13.6	96	87		
20 38 39.7	1.035	32	269	20 39 38.2	266	217	21 39 19.1	111	63	1 57.1	112
20 25 40.8	0.813	47	251				21 32 07.1	101	53		
20 36 37.7	1.035	34	268	20 37 37.7	267	219	21 37 46.4	111	64	1 59.9	112
19 45 07.4	0.614	61	194				20 56 52.7	88	59		
20 38 23.7	0.989	31	271				21 38 15.7	113	66		
20 36 07.6	0.809	43	261				21 40 25.3	101	49		

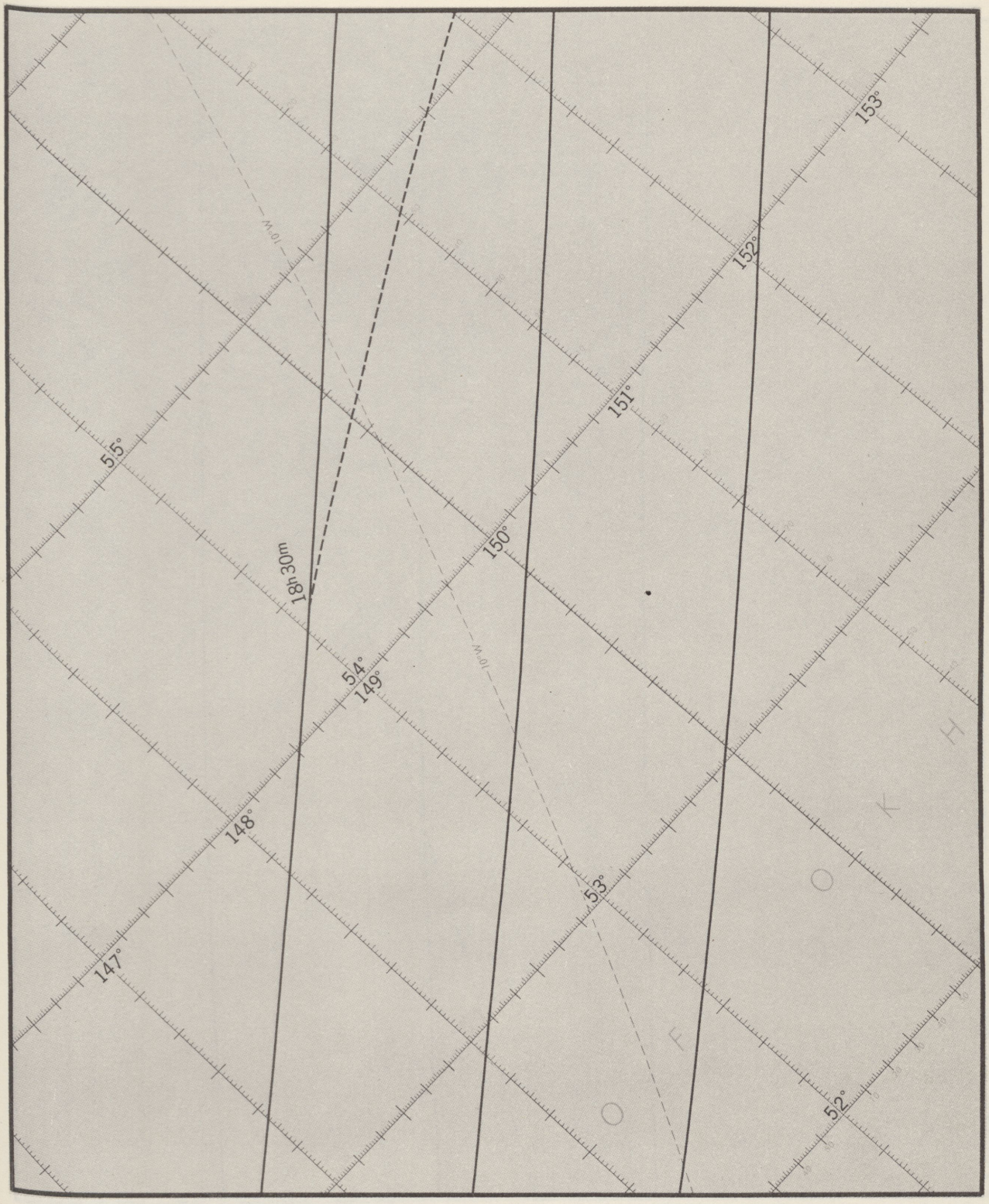
LOCAL CIRCUMSTANCES

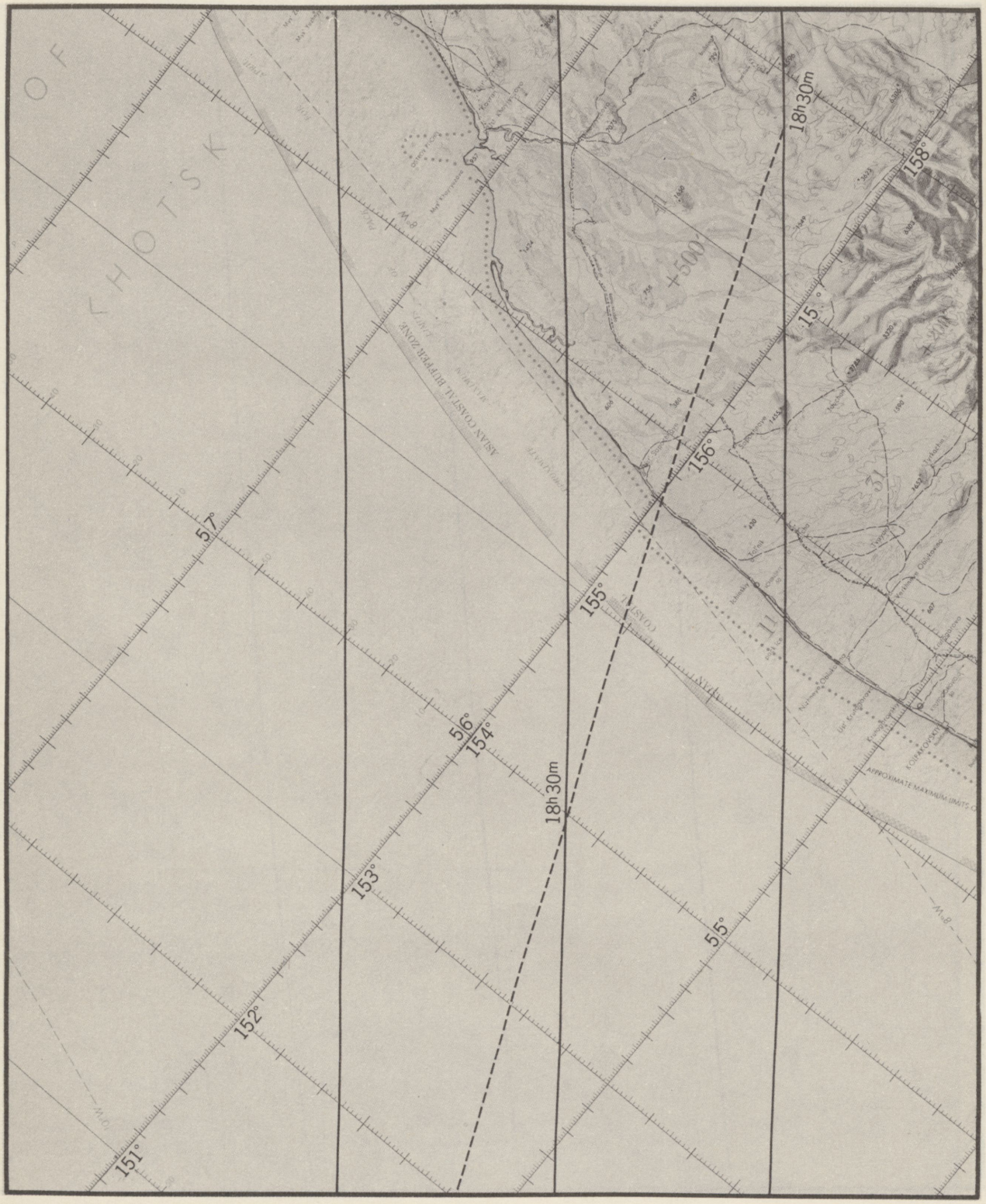
Geographic Locations	Latitude	Longitude	First Contact Universal Time	P	V	Second Contact Universal Time	P	V
	° ′	° ′	h m s	°	°	h m s	°	°
Tanana, Alaska, U.S.A.	+65 11.0	+152 10.0	17 49 35.9	286	312			
Tavani, N.W.T., Can.	+62 00.0	+ 93 20.0	18 37 14.0	290	286			
Teller, Alaska, U.S.A.	+65 12.0	+166 23.0	17 45 15.8	283	310			
Timmins, Ont., Can.	+48 30.0	+ 81 20.0	19 09 01.4	302	272			
Toledo, Ohio, U.S.A.	+41 40.0	+ 83 35.0	19 20 31.0	313	272			
Toronto, Ont., Can.	+43 42.0	+ 79 25.0	19 20 40.2	307	266			
Tracadie, N.B., Can.	+47 32.0	+ 64 57.0	19 27 06.5	293	249	20 33 01.9	123	76
Traverse City, Mich., U.S.A.	+44 46.0	+ 85 38.0	19 11 17.5	310	278			
Trenton, N.S., Can.	+45 37.0	+ 62 38.0	19 32 29.2	293	246	20 37 34.5	135	85
Trois Rivières, Que., Can.	+46 21.0	+ 72 34.0	19 22 26.2	299	257			
Truro, N.S., Can.	+45 22.0	+ 63 16.0	19 32 27.7	294	246	20 38 38.7	194	144
Tuktoyaktuk, N.W.T., Can.	+69 27.0	+133 00.0	18 04 39.8	283	300	19 09 52.0	97	109
Uelen, U.S.S.R.	+66 13.0	+169 48.0	17 46 18.1	281	306	18 46 12.5	142	168
Uel'kal', U.S.S.R.	+65 32.0	+179 19.0	17 44 40.0	279	304	18 42 56.2	39	66
Umiat, Alaska, U.S.A.	+69 25.0	+152 20.0	17 55 34.6	281	302	18 58 14.8	61	79
Unalakleet, Alaska, U.S.A.	+63 52.0	+160 50.0	17 44 38.5	286	314			
Utica, N.Y., U.S.A.	+43 06.0	+ 75 15.0	19 26 15.4	305	259			
Vancouver, B.C., Can.	+49 13.0	+123 06.0	18 09 59.8	317	352			
Vernon, P.E.I., Can.	+46 11.0	+ 62 54.0	19 31 14.1	293	246	20 36 21.3	116	67
Victoria, B.C., Can.	+48 26.0	+123 20.0	18 10 30.5	318	355			
Wainwright, Alaska, U.S.A.	+70 39.0	+160 10.0	17 55 16.4	278	299			
Wales, Alaska, U.S.A.	+65 38.0	+168 09.0	17 45 37.4	282	308			
Washington, D.C., U.S.A.	+38 55.0	+ 77 00.0	19 33 40.0	312	259			
Waterville, Me., U.S.A.	+44 34.0	+ 69 41.0	19 28 35.9	299	253			
Wellington, P.E.I., Can.	+46 28.0	+ 64 00.0	19 29 50.6	293	248	20 35 32.6	143	94
Westville, N.S., Can.	+45 34.0	+ 62 44.0	19 32 30.1	293	246	20 37 41.0	141	92
Whitehorse, Yukon, Can.	+60 41.0	+135 08.0	17 55 27.6	295	323			
Whittier, Alaska, U.S.A.	+60 45.0	+148 48.0	17 45 54.8	293	324			
Windsor, Ont., Can.	+42 18.0	+ 83 00.0	19 19 44.3	312	271			
Winnipeg, Man., Can.	+49 53.0	+ 97 10.0	18 46 32.3	309	304			
Worcester, Mass., U.S.A.	+42 17.0	+ 71 48.0	19 31 14.2	303	254			
Yakutat, Alaska, U.S.A.	+59 29.0	+139 49.0	17 50 51.0	296	327			
Yarmouth, N.S., Can.	+43 50.0	+ 66 08.0	19 33 04.5	298	248			
Yellowknife, N.W.T., Can.	+62 30.0	+114 29.0	18 15 15.7	293	308			

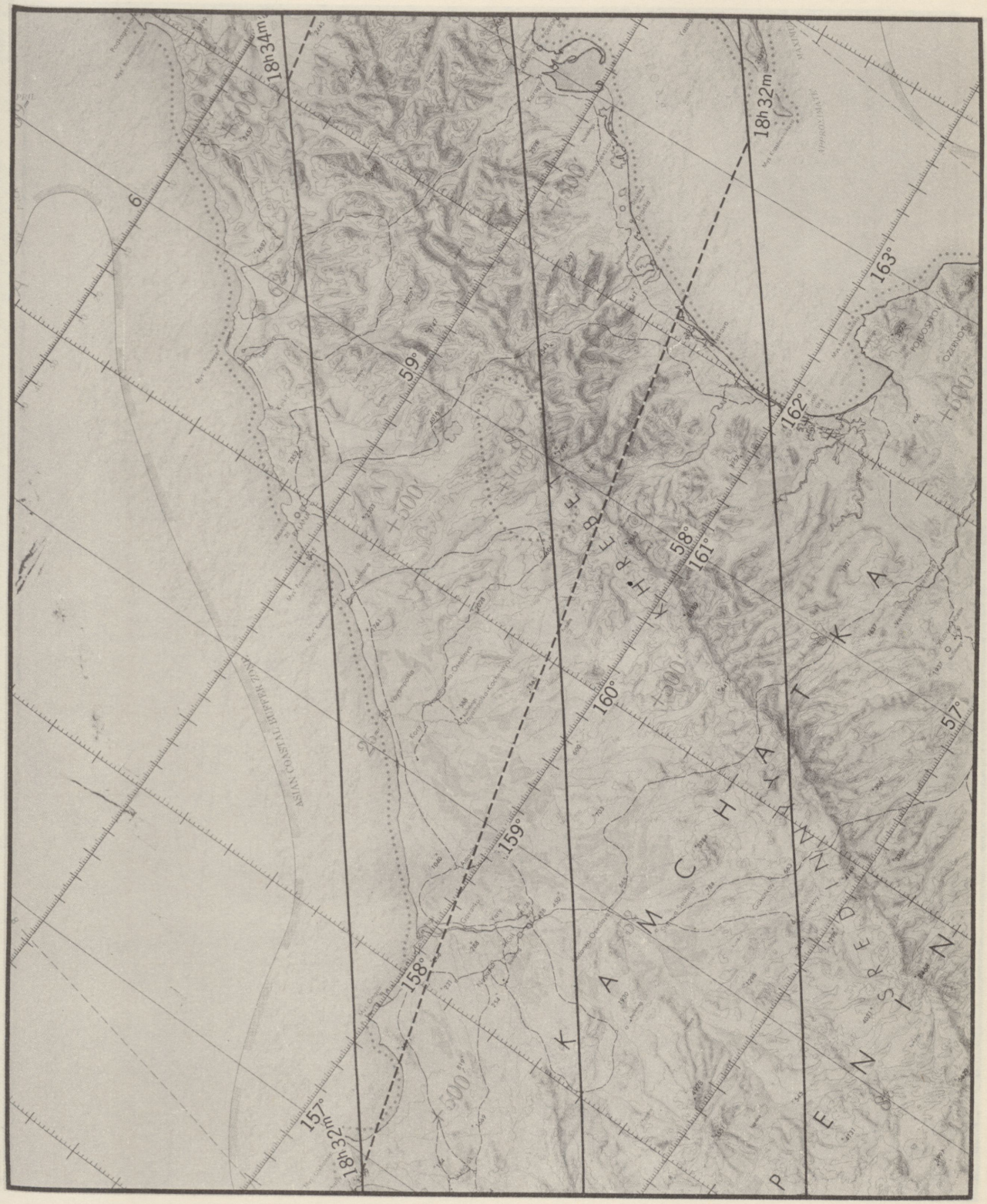
LOCAL CIRCUMSTANCES

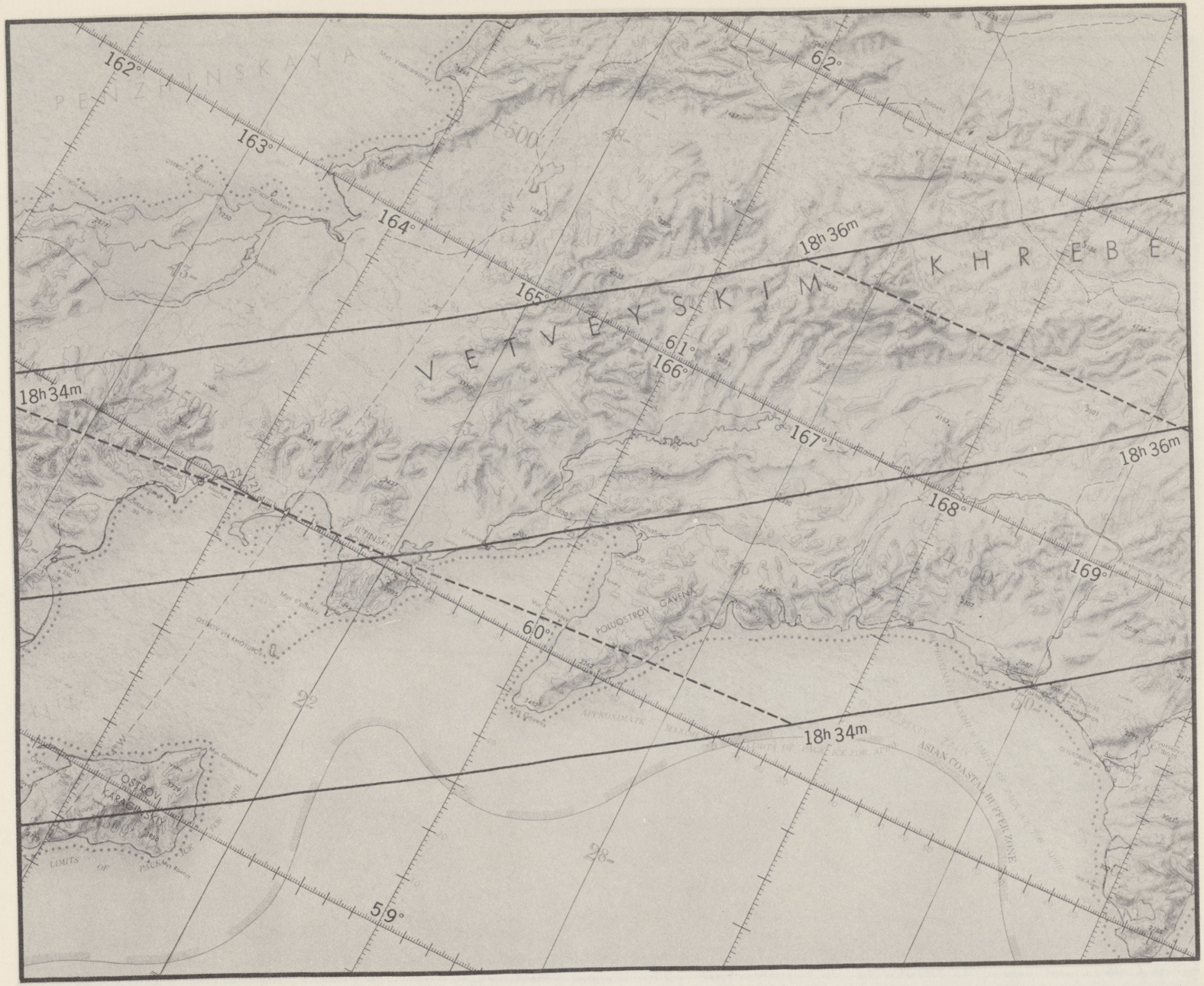
Maximum Eclipse Universal Time	Magnitude	Sun's Alt.	Sun's Az.	Third Contact Universal Time	P	V	Fourth Contact Universal Time	P	V	Duration	Width of Path
h m s		°	°	h m s	°	°	h m s	°	°	m s	mi
18 54 05.2	0.929	36	118				20 01 29.8	98	116		
19 48 34.9	0.995	47	211				20 57 19.7	108	84		
18 46 43.6	0.971	30	102				19 51 20.8	99	122		
20 21 39.8	0.847	47	248				21 28 33.3	103	58		
20 32 26.6	0.686	49	255				21 37 49.8	95	41		
20 32 21.2	0.780	46	257				21 37 39.1	100	48		
20 34 08.0	1.036	35	266	20 35 14.2	282	235	21 35 45.7	112	65	2 12.3	113
20 24 29.0	0.723	51	248				21 31 30.3	97	47		
20 38 34.9	1.035	32	269	20 39 35.3	270	221	21 39 13.9	111	63	2 00.8	112
20 32 20.2	0.910	40	260				21 36 19.1	106	58		
20 38 48.4	1.035	33	269	20 38 58.1	211	161	21 39 38.5	111	62	0 19.4	112
19 11 05.8	1.038	40	147	19 12 19.5	291	303	20 18 49.7	105	109	2 27.5	108
18 46 59.9	1.035	28	100	18 47 47.4	239	264	19 50 41.8	100	124	1 34.9	104
18 43 25.3	1.034	24	90	18 43 54.4	341	7	19 45 09.8	101	127	0 58.2	103
18 59 06.5	1.036	35	122	18 59 58.3	324	343	20 04 53.3	104	118	1 43.5	106
18 47 20.6	0.921	33	107				19 53 22.8	96	119		
20 36 41.2	0.821	42	262				21 40 45.3	102	50		
19 19 00.6	0.488	61	151				20 29 09.4	77	73		
20 37 26.8	1.035	33	269	20 38 32.2	289	240	21 38 14.9	112	64	2 10.9	112
19 18 46.9	0.463	61	150				20 28 13.5	75	72		
18 57 06.5	0.963	31	114				20 01 10.6	105	121		
18 46 41.7	0.987	29	101				19 50 51.4	99	123		
20 43 19.5	0.720	42	265				21 46 18.2	97	40		
20 37 22.1	0.914	38	265				21 40 09.5	107	57		
20 36 30.1	1.035	34	267	20 37 27.6	262	214	21 37 42.3	111	64	1 55.0	112
20 38 38.2	1.035	32	269	20 39 35.4	264	214	21 39 19.0	111	63	1 54.4	112
19 04 11.3	0.795	46	137				20 15 22.6	92	102		
18 51 21.0	0.810	39	118				20 00 16.9	91	112		
20 31 48.1	0.707	49	255				21 37 21.8	96	43		
20 01 32.2	0.702	57	220				21 12 09.4	94	56		
20 40 26.5	0.849	39	266				21 43 21.3	104	51		
18 58 27.1	0.763	45	129				20 09 07.3	90	104		
20 40 27.7	0.943	35	268				21 42 00.7	108	58		
19 26 55.6	0.889	50	174				20 38 21.6	100	91		

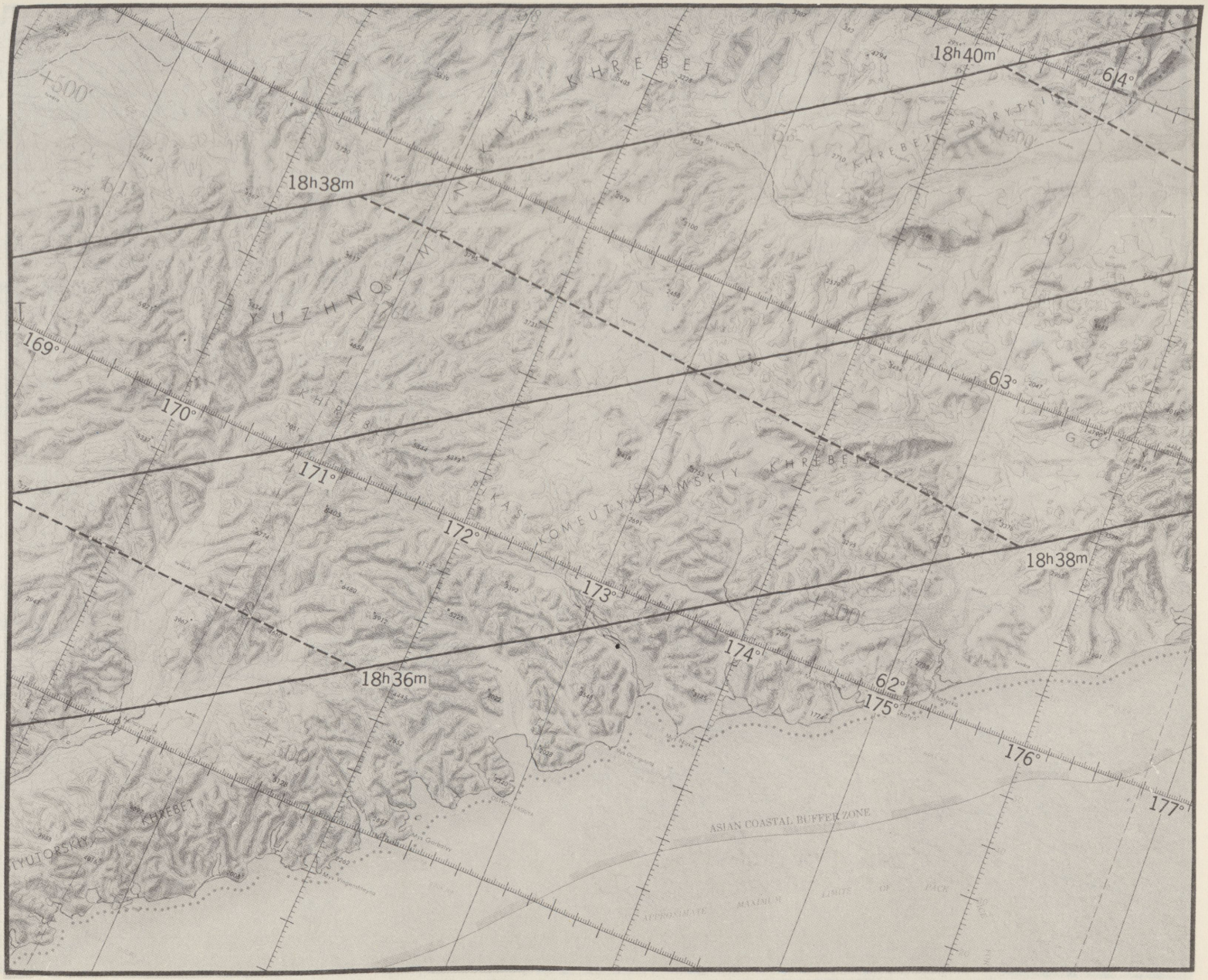

18h 28m
148°
147°
146°
145°
144°
143°
53°
52°
51°
50°
Greenwich
East of
Longitude
COASTAL
BUFFER
ZONE


153°
152°
151°
150°
149°
148°
147°
55°
54°
53°
52°
18h30m
10°W
10°W

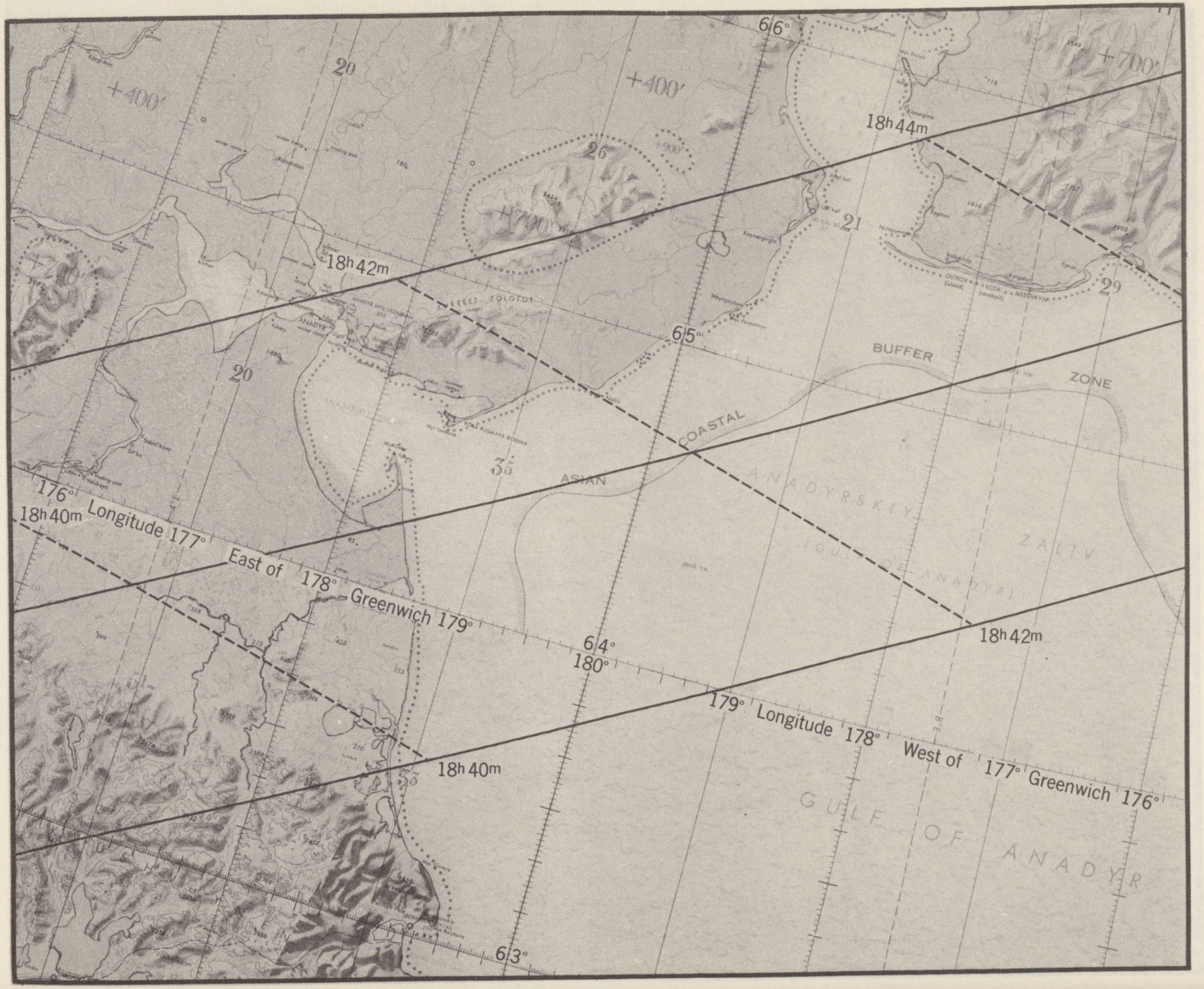

OF OKHOTSK
ASIAN COASTAL RIPPER ZONE
+500
18h30m
158°
157°
156°
155°
154°
153°
152°
151°
57°
56°
55°
18h30m
APPROXIMATE MAXIMUM LIMITS

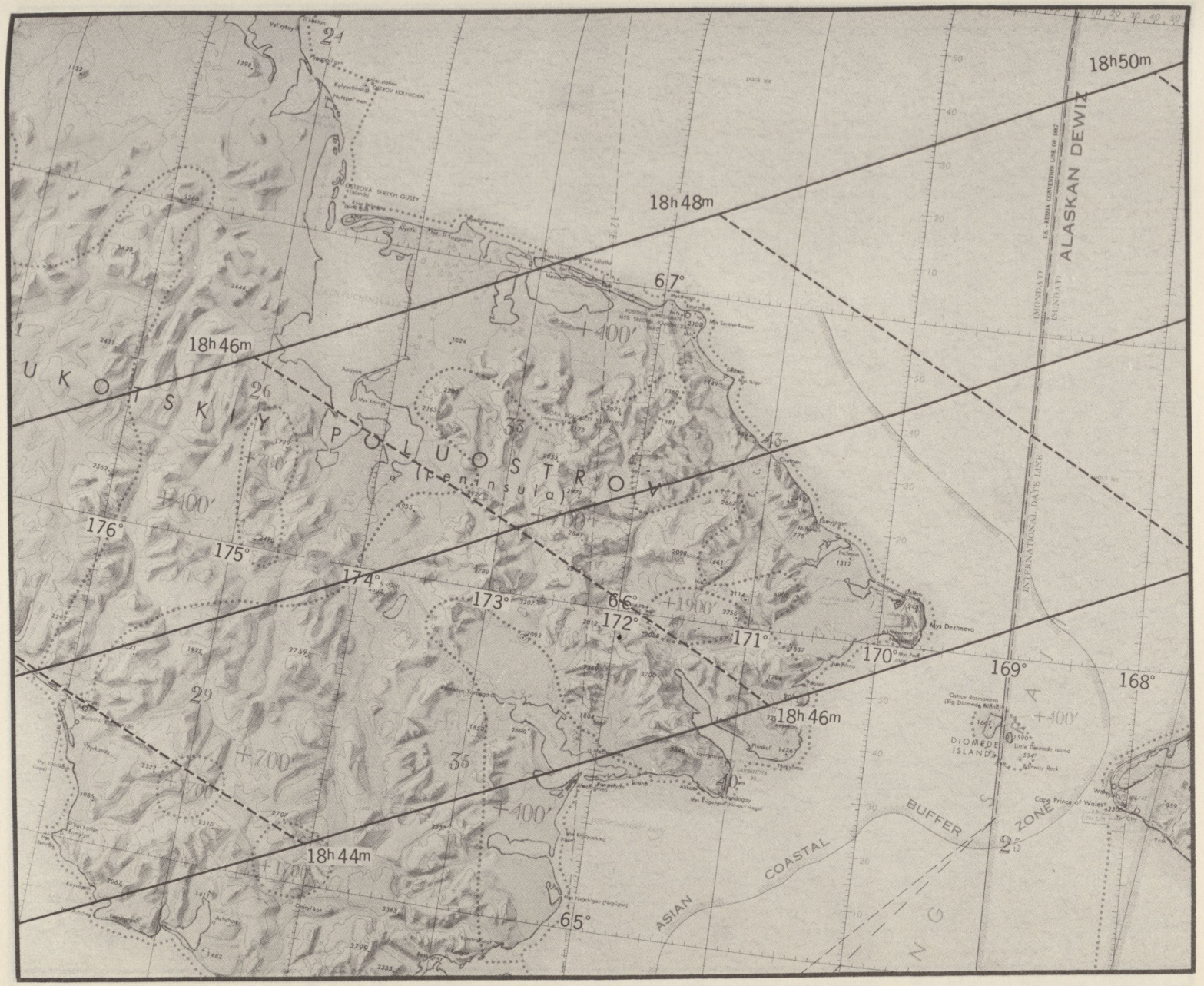

18h34m
18h32m
18h32m
157°
158°
159°
160°
161°
162°
163°
59°
58°
57°
KAMCHATKA
PENINSULA
ASIAN COASTAL HARBOR ZONE

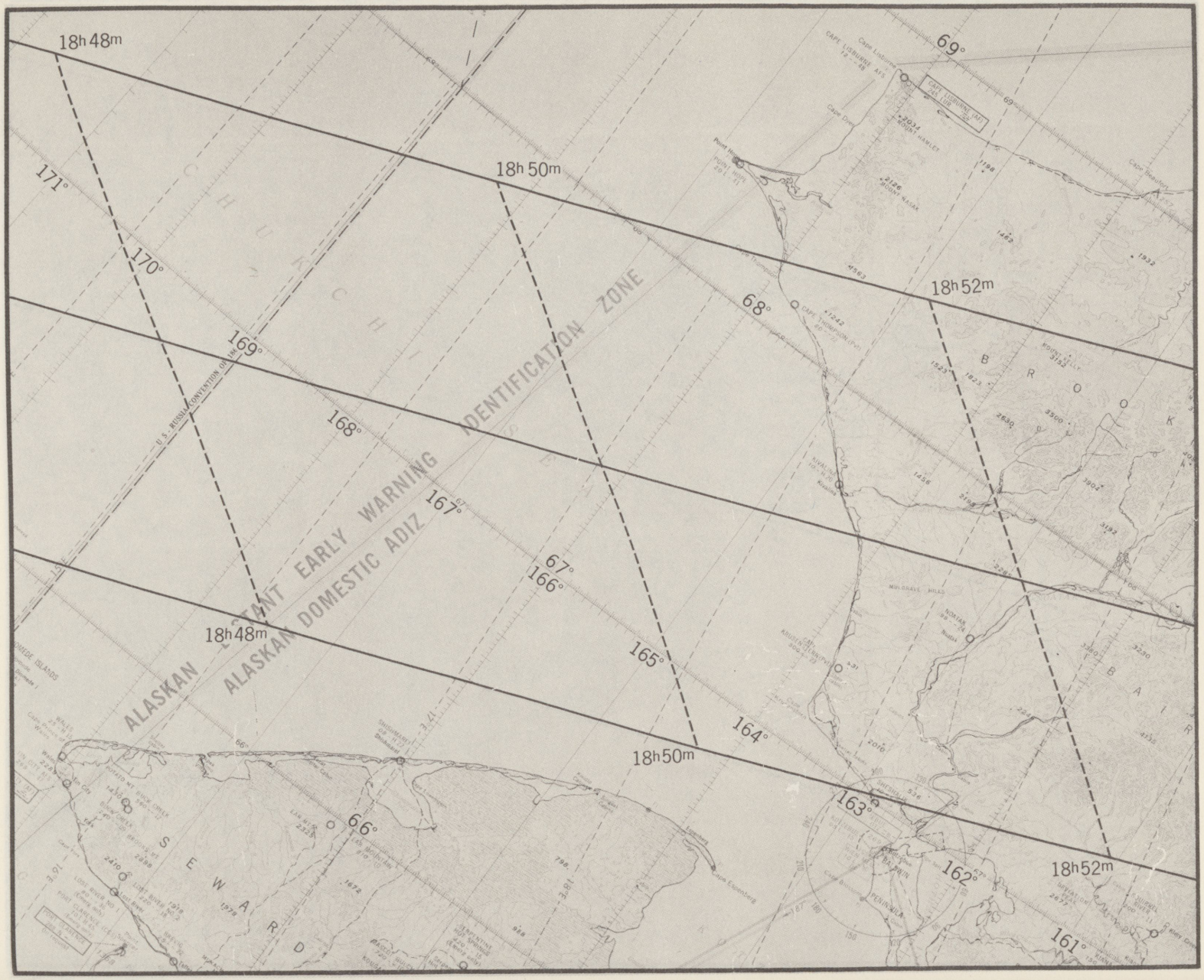

162°
163°
164°
165°
166°
167°
168°
169°
62°
61°
60°
59°
18h 36m
18h 34m
18h 36m
18h 34m
VETVEYSKIM KHREBE
POLUOSTROV CAVENA
OSTROV KARAGINSKIY
LIMITS OF PACK ICE
ASIAN COASTAL BUFFER ZONE



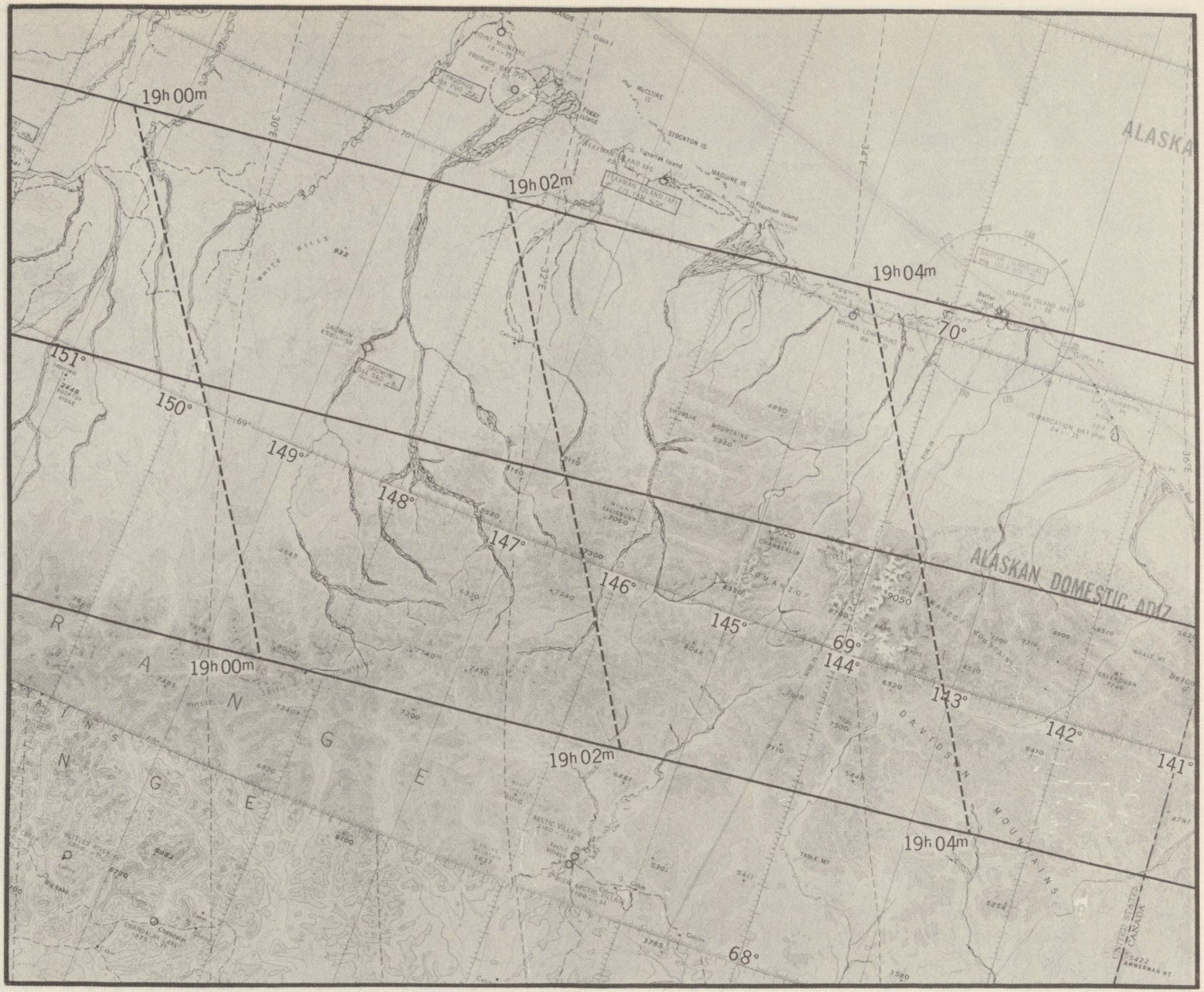
TOTAL SOLAR ECLIPSE OF 10 JULY 1972

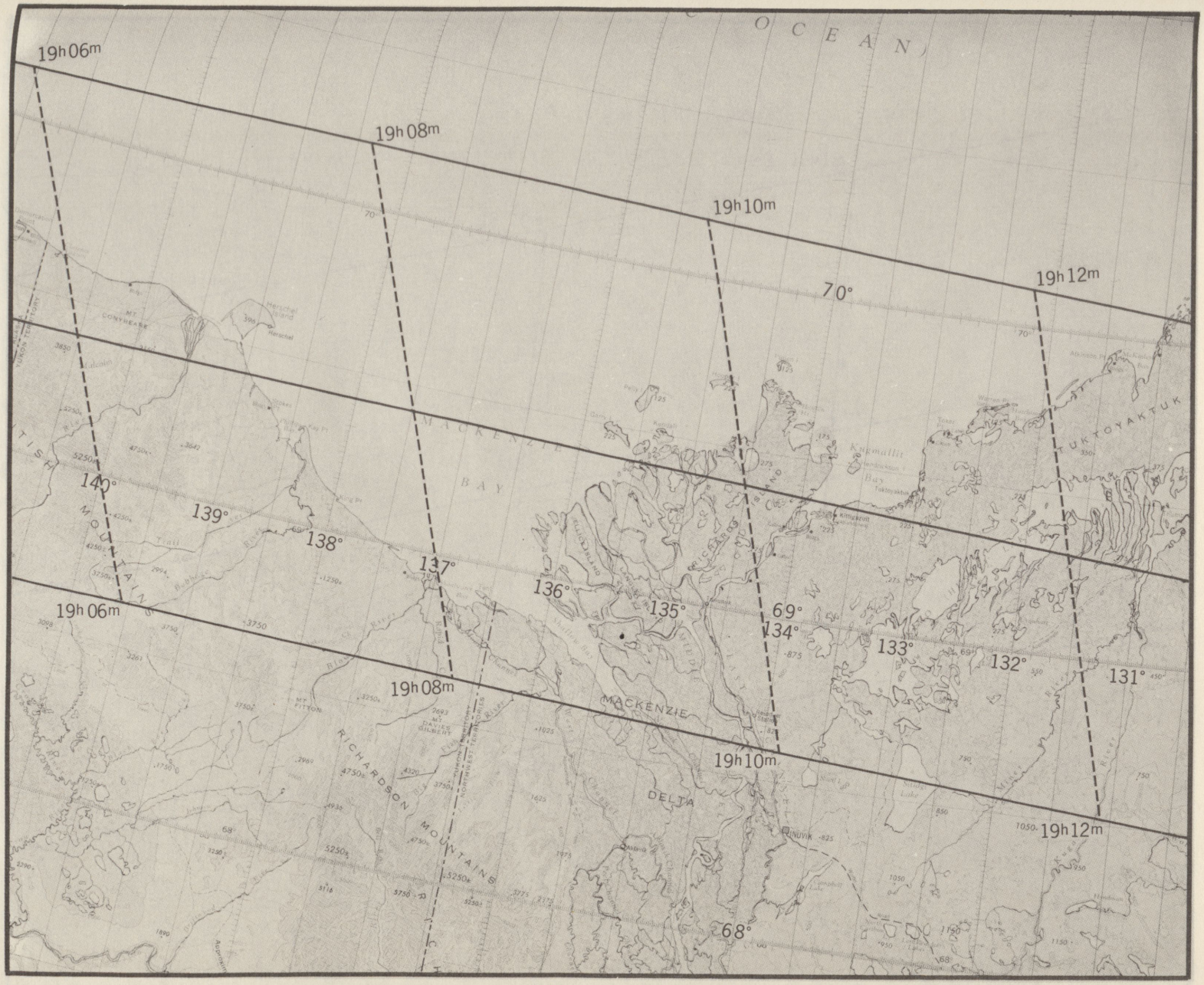

66°
+400′
20
+400′
+700′
18h44m
26
+700′
21
18h42m
29
65°
BUFFER
ZONE
20
COASTAL
35
ASIAN
ANADYRSKIY
ZALIV
(GULF OF ANADYR)
176°
18h40m
Longitude 177°
East of 178°
Greenwich 179°
64°
180°
18h42m
179°
Longitude 178°
West of 177°
Greenwich 176°
18h40m
GULF OF ANADYR
63°


18h50m
18h48m
18h46m
18h46m
18h44m
67°
66°
65°
176°
175°
174°
173°
172°
171°
170°
169°
168°
UKOTSKIY POLUOSTROV
(Peninsula)
ALASKAN DEWIT
INTERNATIONAL DATE LINE
(MONDAY)
(SUNDAY)
DIOMEDE ISLANDS
Ostrov Ratmanova
(Big Diomede Island)
Little Diomede Island
Cape Prince of Wales
Myn Dezhnevo
ASIAN COASTAL BUFFER ZONE
+400'
+700'
+1900'

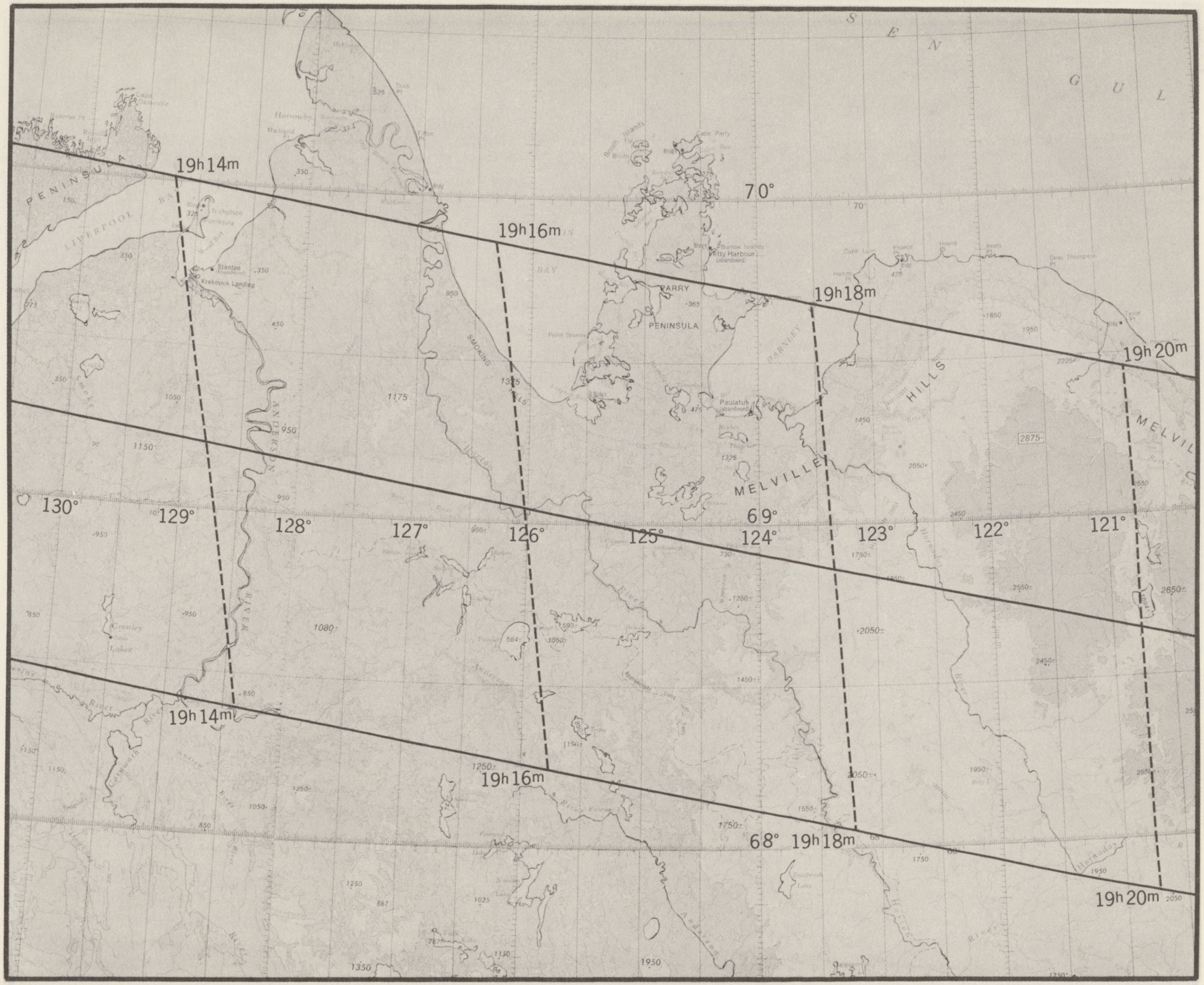

18h48m
18h50m
18h52m
69°
68°
67°
66°
171°
170°
169°
168°
167°
166°
165°
164°
163°
162°
161°
U.S.-RUSSIA CONVENTION LINE
ALASKAN DOMESTIC ADIZ
ALASKAN CIVIL DEFENSE EARLY WARNING IDENTIFICATION ZONE
CAPE LISBURNE AFS
CAPE THOMPSON
BROOKS RANGE
SEWARD PENINSULA
BERING SEA

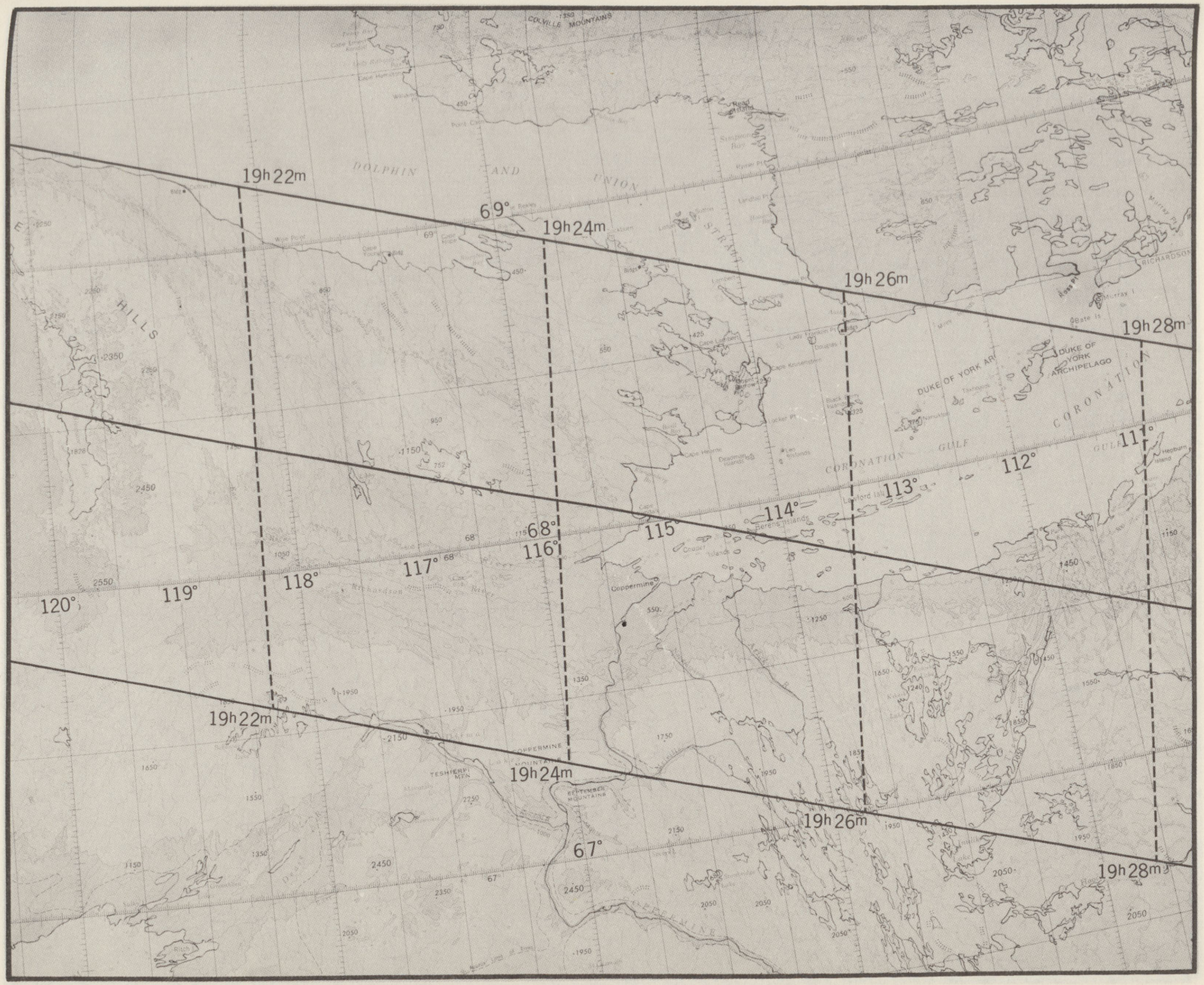
TOTAL SOLAR ECLIPSE OF 10 JULY 1972


19h 00m
19h 02m
19h 04m
151°
150°
149°
148°
147°
146°
145°
144°
143°
142°
141°
70°
69°
68°
ALASKA
ALASKAN DOMESTIC ADIZ
R A N G E
DAVIDSON MOUNTAINS
SHUBLIK MOUNTAINS
WHITE HILLS
TABLE MT
INTERNATIONAL BOUNDARY
CANADA

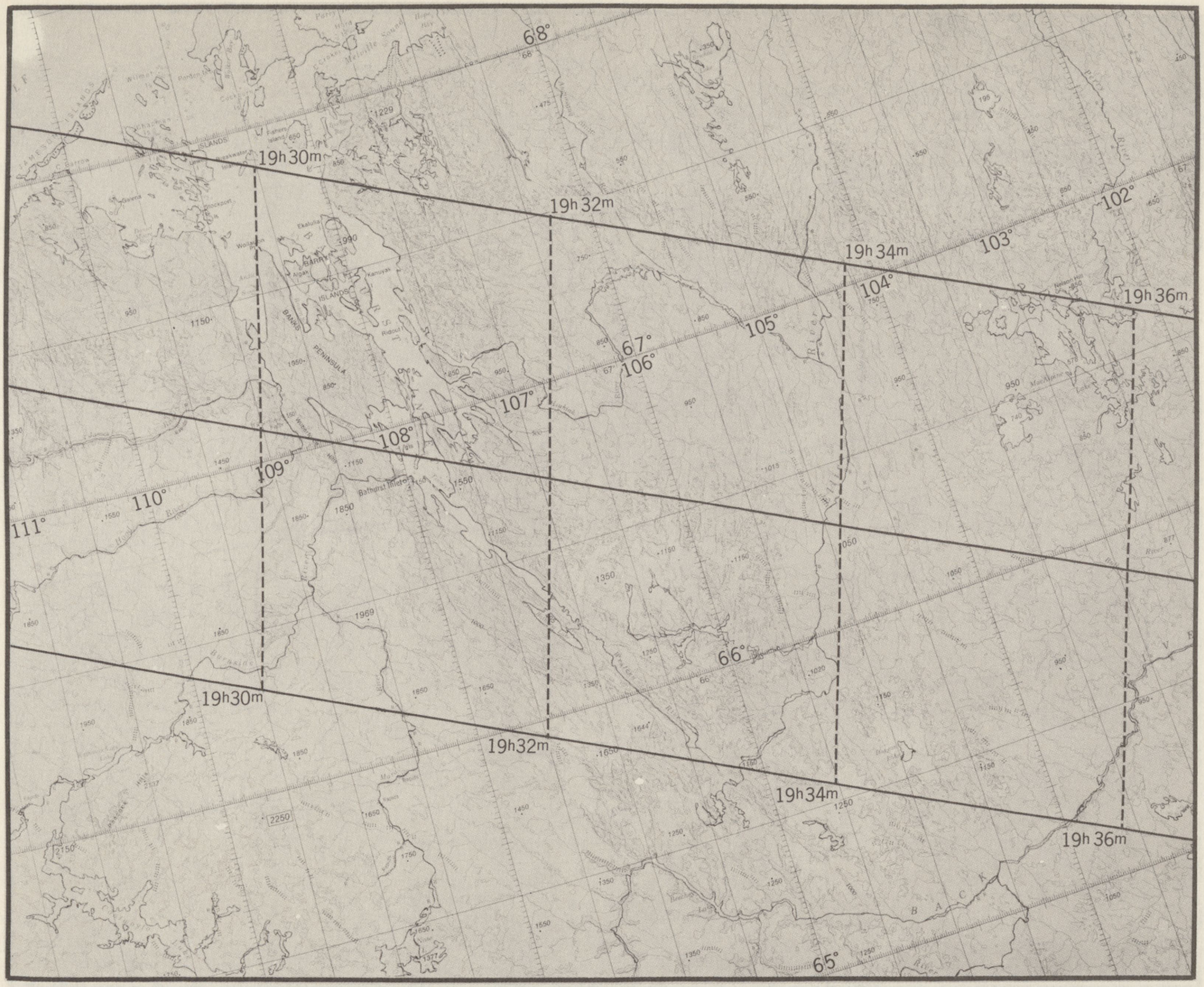


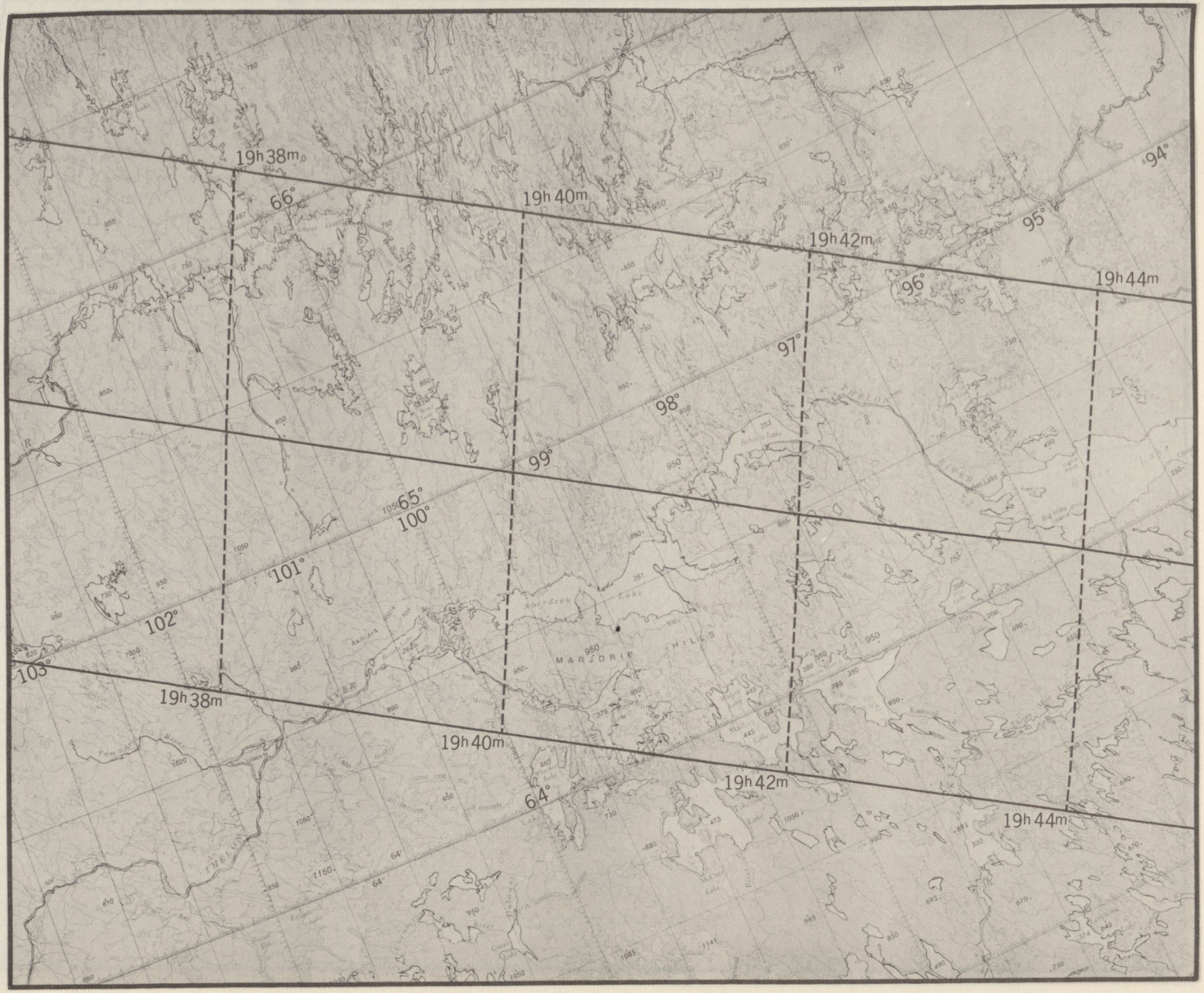
TOTAL SOLAR ECLIPSE OF 10 JULY 1972

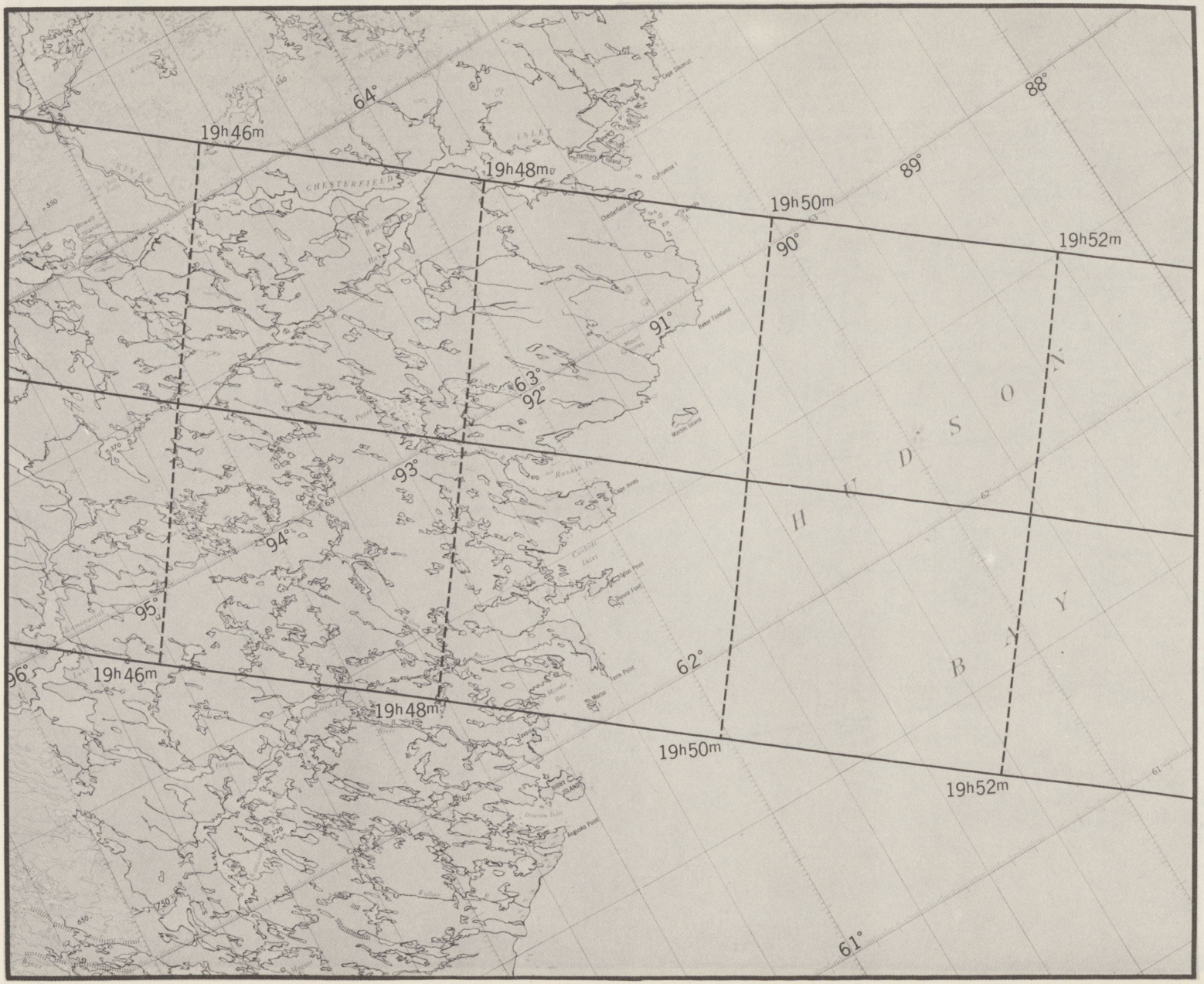

19h14m
19h16m
19h18m
19h20m
19h14m
19h16m
19h18m
19h20m
70°
69°
68°
130°
129°
128°
127°
126°
125°
124°
123°
122°
121°
PENINSULA
LIVERPOOL BAY
PARRY PENINSULA
SMOKING HILLS
ANDERSON RIVER
MELVILLE
MELVILLE HILLS
DARNLEY
HILLS
MELVIL
G U L
S E N

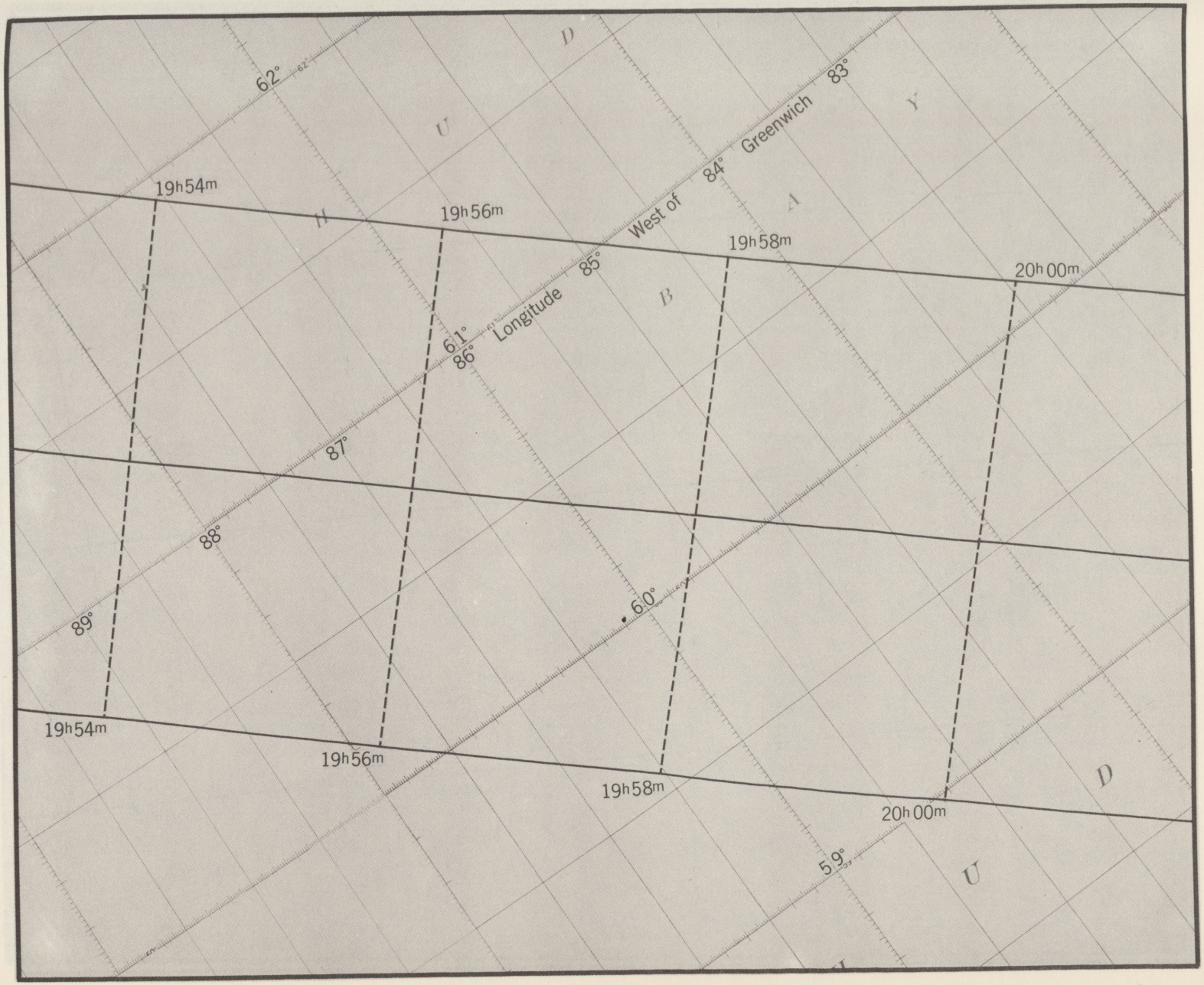


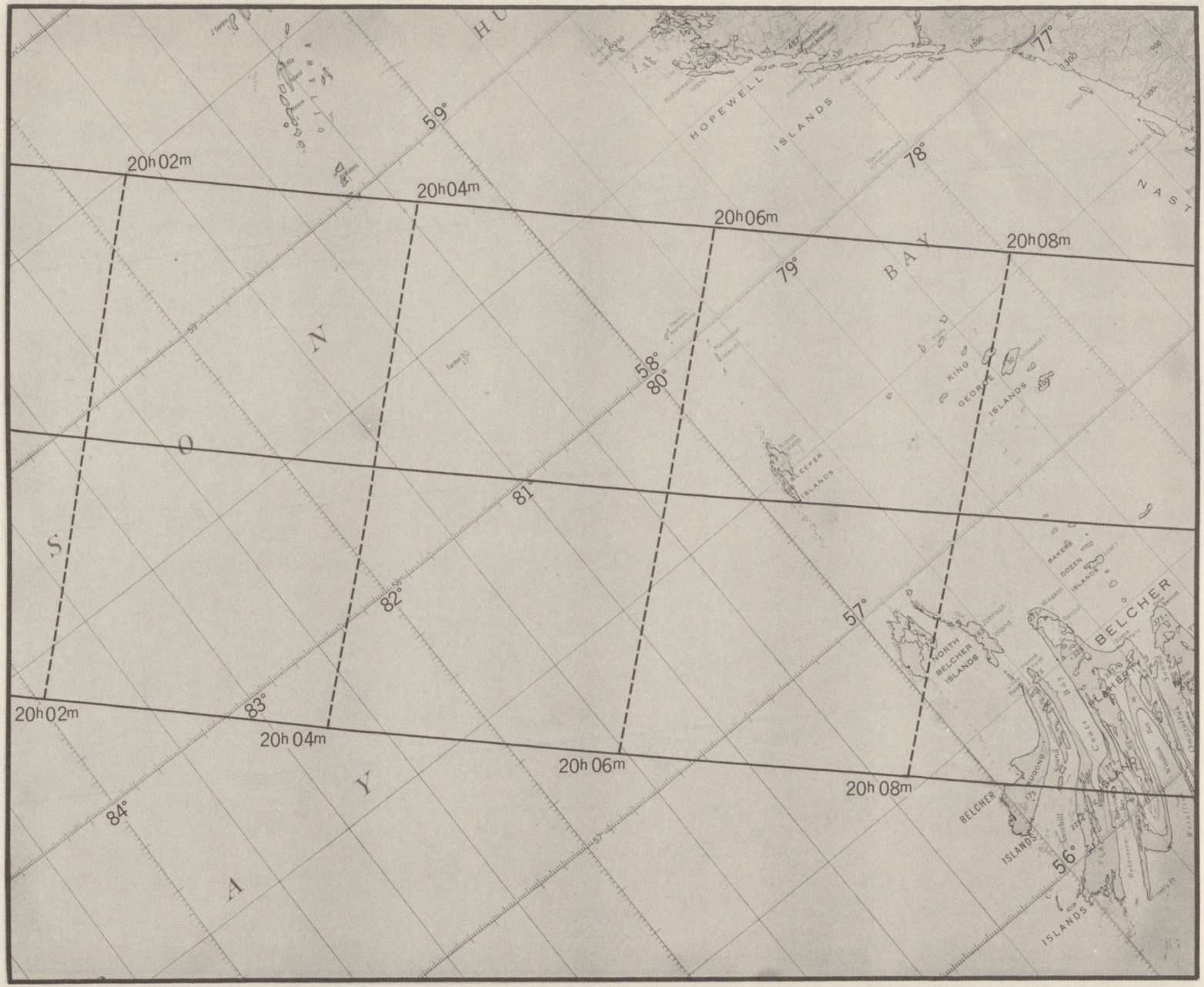
TOTAL SOLAR ECLIPSE OF 10 JULY 1972


68°
19h30m
19h32m
19h34m
19h36m
102°
103°
104°
105°
106°
107°
108°
109°
110°
111°
67°
66°
65°
19h30m
19h32m
19h34m
19h36m
BANKS PENINSULA
Bathurst Inlet
BACK

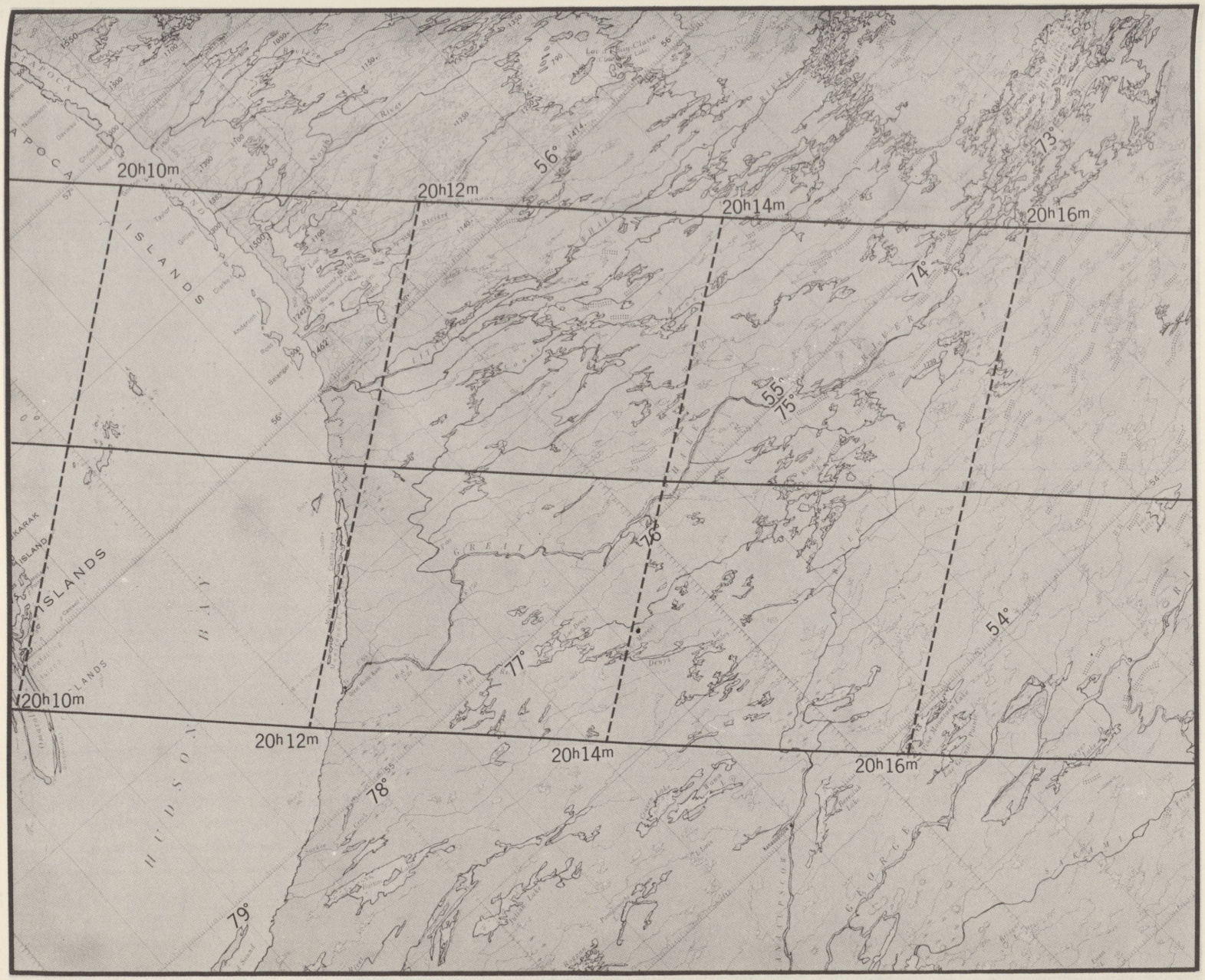

19h38m
19h40m
19h42m
19h44m
66°
65°
64°
94°
95°
96°
97°
98°
99°
100°
101°
102°
103°
MARJORIE HILLS
Aberdeen Lake
THELON

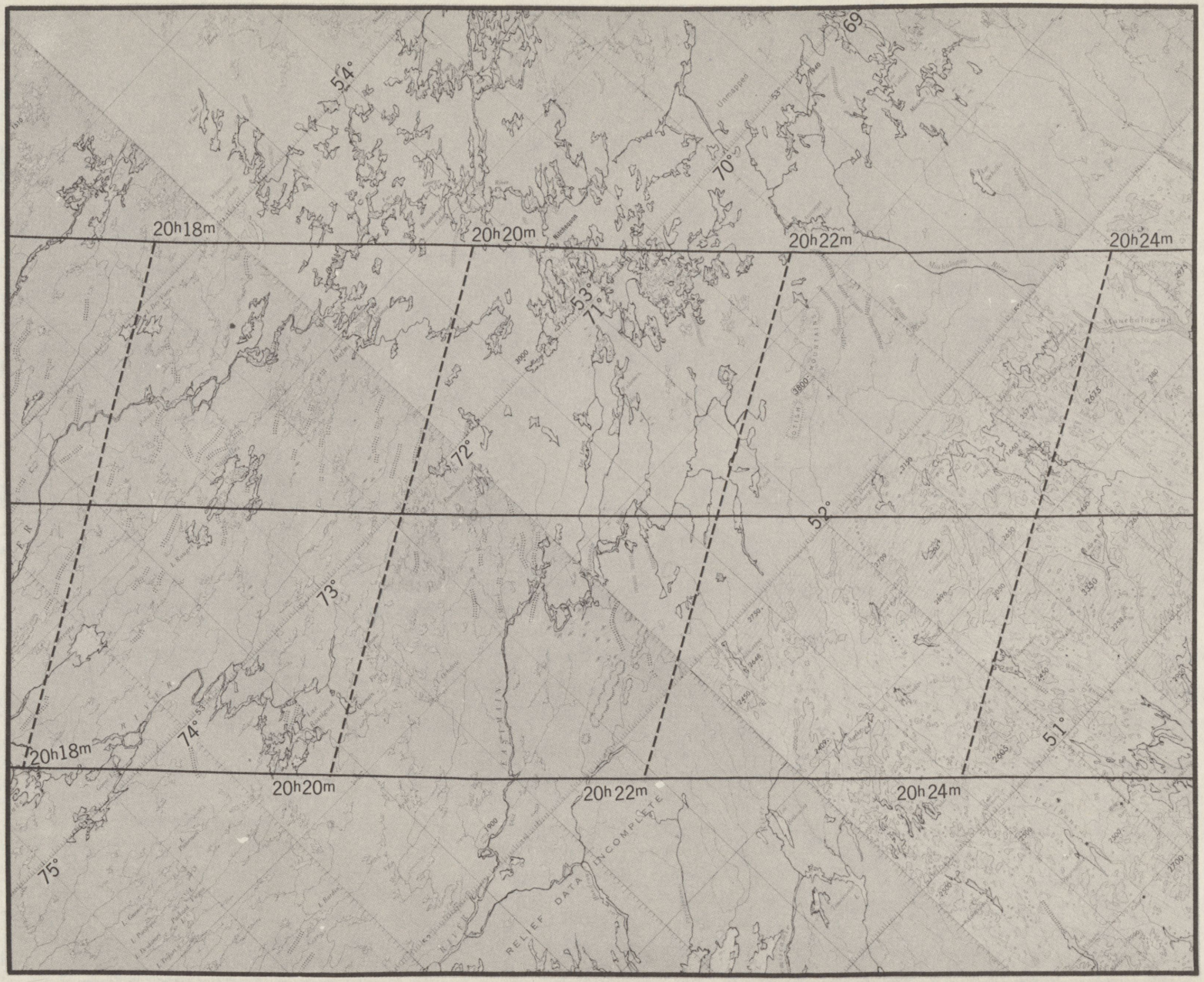

19h46m
19h48m
19h50m
19h52m
64°
63°
62°
61°
88°
89°
90°
91°
92°
93°
94°
95°
96°
CHESTERFIELD
INLET
HUDSON
BAY


62°
62°
D
U
Y
83°
Greenwich
84°
West of
19h54m
19h56m
19h58m
20h00m
H
A
85°
Longitude
B
61°
86°
87°
88°
89°
60°
19h54m
19h56m
19h58m
20h00m
D
59°
U

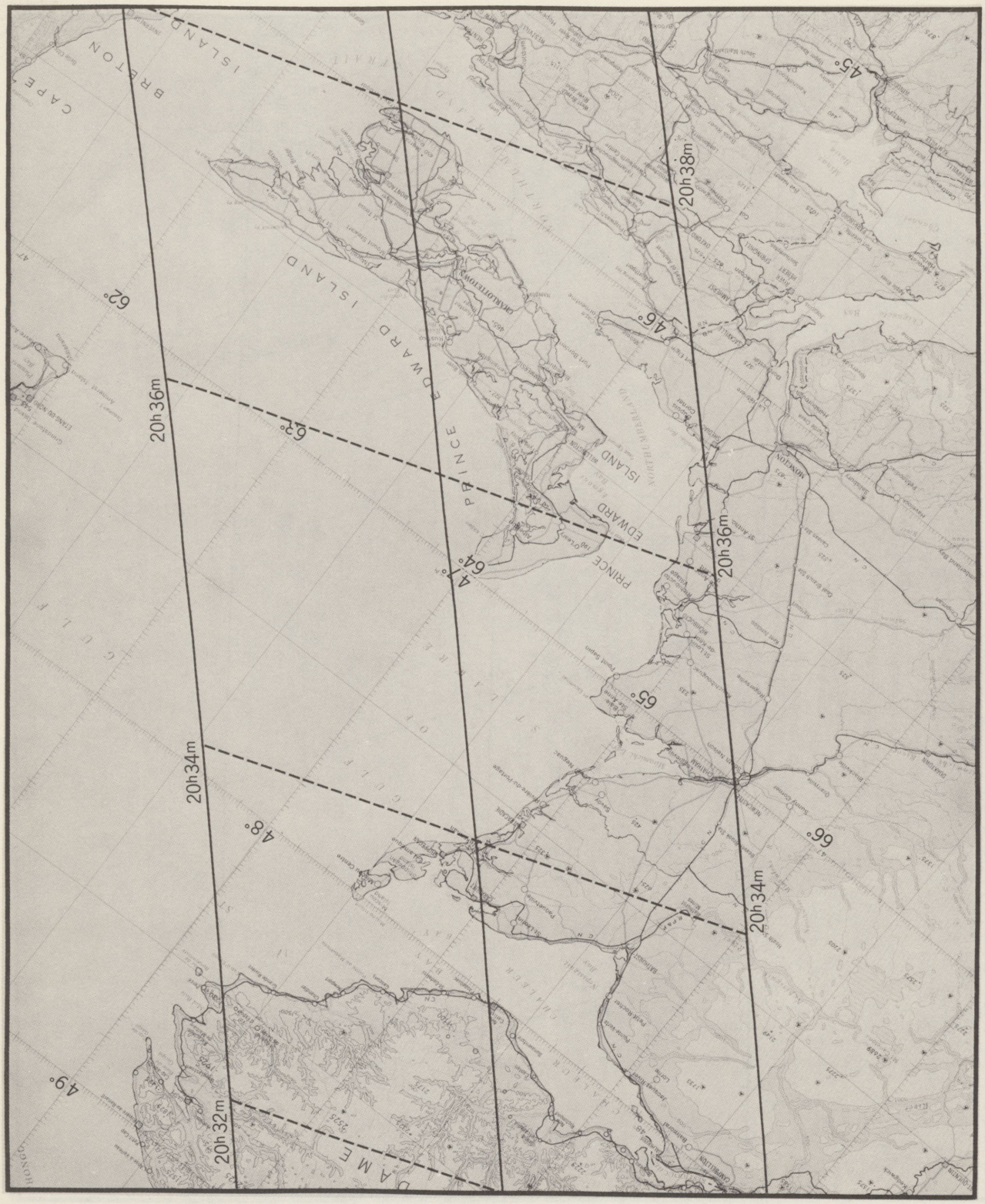


TOTAL SOLAR ECLIPSE OF 10 JULY 1972


20h10m
20h12m
20h14m
20h16m
56°
73°
74°
55°
75°
76°
77°
54°
78°
79°
ISLANDS
HUDSON BAY


20h18m
20h20m
20h22m
20h24m
54°
53°
52°
51°
75°
74°
73°
72°
71°
70°
69°
RELIEF DATA INCOMPLETE

52°
51°
50°
49°
48°
66°
67°
68°
69°
70°
71°
20h26m
20h28m
20h30m
20h32m
20h26m
20h28m
20h30m
ST LAWRENCE RIVER
LES NOTRE
SHICKSHOCK MOUNTAINS
QUEBEC
NEW BRUNSWICK


20h38m
20h36m
20h34m
20h32m
45°
46°
47°
48°
49°
62°
63°
64°
65°
66°
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
CHARLOTTETOWN
MONCTON

20h 42m
20h 40m
Greenwich
West of
59°
46°
45°
60°
Longitude
61°
20h 44m
20h 42m
20h 40m
62°
43°
63°
42°
ATLANTIC
HALIFAX

CLIMATOLOGICAL DATA

General Monthly Values of Climatic Conditions for July

Element	*Tuktoyaktuk N.W.T.*	*Cape Parry N.W.T.*	*Coppermine N.W.T.*	*Baker Lake N.W.T.*	*Chesterfield N.W.T.*	*Poste-de-la-Baleine, Que.*	*Nitchequon Que.*	*Manicouagan Que.*
Mean max.	59°F	48°F	56°F	60°F	56°F	60°F	65°F	70°F
Mean min.	42°F	36°F	41°F	42°F	40°F	42°F	49°F	47°F
Extreme max.	82°F	74°F	90°F	81°F	85°F	92°F	88°F	88°F
Extreme min.	28°F	26°F	31°F	29°F	26°F	28°F	33°F	31°F
Mean D.P.	43°F	38°F	43°F	43°F	41°F	45°F	48°F	
Mean W.B.	46°F	40°F	46°F	47°F	44°F	48°F	52°F	
Mean R.H.	77%	89%	80%	72%	79%	81%	73%	
Mean rain	1.28	o.88	1.32	1.58	1.75	3.36	3.94	4.70
Mean snow	0.3	0.1	0.2					
No. Days rain	9	9	10	9	10	16	18	
Max. Pcpn. 24 hrs.	0.80	1.12	1.35	1.41	2.28	2.87	1.61	
No. Hrs. sun			2.83					
No. Days T			0.0	1.0	0.5	1.8	2.1	
No. Days F			1.9	2.6	4.8	10.5	0.2	
% Cloudiness								
0-2 tenths		17	20	19	25		14	
3-7 tenths		27	23	28	26		24	
8-10 tenths		56	57	53	49		62	

Element	*Baie Comeau Que.*	*Sept-Iles Que.*	*Mont Joli Que.*	*Chatham N.B.*	*Summerside P.E.I.*	*Charlottetown P.E.I.*	*Truro N.S.*	*Copper Lake N.S.*	*Sable Island N.S.*
Mean max.	71°F	68°F	72°F	78°F	74°F	74°F	76°F	75°F	65°F
Mean min.	50°F	51°F	54°F	56°F	58°F	58°F	54°F	54°F	56°F
Extreme max.	91°F	90°F	94°F	98°F	92°F	91°F	87°F	91°F	77°F
Extreme min.	37°F	35°F	38°F	38°F	44°F	40°F	37°F	33°F	40°F
Mean D.P.		52°F	53°F	56°F	57°F	57°F		58°F	57°F
Mean W.B.		55°F	57°F	60°F	60°F	60°F			57°F
Mean R.H.		78%	71%	72%	75%	78%			95%
Mean rain	3.00	4.14	2.85	2.90	2.79	2.97	2.92	3.22	2.90
Mean snow									
No. Days rain		13	12	12	11	11	11	11	9
Max. Pcpn. 24 hrs.		3.13	1.50	1.83	2.05	1.63	2.36	2.60	2.85
No. Hrs. sun				261		252			
No. Days T		1.3	2.3	3.7	3.1	1.7		3.9	1.3
No. Days F		6.7	4.5	3.3	1.9	2.5		13.9	10.0
% Cloudiness									
0-2 tenths		21	28	19	28	27		25	19
3-7 tenths		26	24	30	26	24		20	15
8-10 tenths		53	48	51	46	49		55	66

Legend

Mean max.	Mean daily maximum temperature
Mean min.	Mean daily minimum temperature
Extreme max.	Maximum temperature on record
Extreme min.	Minimum temperature on record
Mean D.P.	Mean dew point temperature
Mean W.B.	Mean wet bulb temperature
Mean R.H.	Mean relative humidity
Mean rain	Mean average rainfall (inches)
Mean snow	Mean average snowfall (inches)
No. Days rain	Number of days with measurable rain
Max. Pcpn. 24 hrs.	Maximum precipitation in 24 hours (inches)
No. Hrs. sun	Average number of hours of bright sunshine
No. Days T	Average number of days with thunder
No. Days F	Average number of occurrences of fog (Vsby. less than 5/8 mile)
% Cloudiness	Percentage frequency of cloudiness in specified ranges
0-2 tenths	
3-7 tenths	
8-10 tenths	

CLIMATOLOGICAL DATA (Continued)

Percentage Frequency of Specified Conditions 8 a.m. to 8 p.m. Local Standard Time

Conditions	Mont Joli Que.	Sept-Iles Que.	Chatham N.B.	Summerside P.E.I.	Charlottetown P.E.I.
Visibility greater than 6 miles Wind speed less than 30 mph Total cloud amount 0-3 tenths	29	21	11	17	23
Total cloud amount 0-2 tenths	21	15	6	12	15
Total cloud amount 3-7 tenths	32	31	28	31	34
Total cloud amount 8-10 tenths	47	54	66	57	51
Wind speed 0-19 mph	86	84	93	78	95
Wind speed 20-29 mph	14	14	7	21	5
Wind speed 30-39 mph	0	2	0	2	0
Wind speed 40-49 mph	0	0	0	0	0
Wind speed 50 mph or greater	0	0	0	0	0
Dry bulb temperature 39°F or less	0	0	0	0	0
Dry bulb temperature 40-49°F	2	0	0	0	0
Dry bulb temperature 50-59°F	31	45	13	10	11
Dry bulb temperature 60-69°F	41	45	41	52	54
Dry bulb temperature 70-79°F	24	10	36	37	35
Dry bulb temperature 80-89°F	2	0	11	1	1
Dry bulb temperature 90°F or greater	0	0	0	0	0
Light rain to heavy rain showers	7	11	14	11	10
Light to heavy drizzle	1	2	3	2	2
Thunderstorms	1	0	2	1	0
Visibility 6 miles or less with fog	2	3	0	0	0

Hourly data are based on a ten year period from 1957 to 1966. Data for the period July 5 through July 15 have been used from each year.

There is a greater probability of drier conditions in the area from Tuktoyaktuk to Chesterfield than in the area southeastward fron Poste-de-la-Baleine to Sable Island. However, warmer less cloudy conditions prevail in the area around Mont Joli, Summerside and Charlottetown, though it should be pointed out, all these data are averages. Movements of weather systems over the continent on July 10, 1972 could produce weather ranging from heavy overcast to bright sunny conditions at any place along the path of the eclipse. Therefore, observers are advised to study the weather forecasts a few days in advance of the eclipse.